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Citrus Notes

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Inside this Issue:

Dear Growers,

The hot news topic at this time is the discovery of an Oriental fruit fly relative in a flytrap near Valrico. We have continued to follow the symptoms of greening infected trees through the summer and have provided an update in the newsletter. In the pesticide news section we have included information on a new 2ee label for Asian psyllid control. Be sure to read the information on the Division of Forestry's Citrus Spot Burner and Certified Pile Burner programs. We have a section on citrus leaf and soil sampling for nutritional analysis. Lastly, the 2007 Citrus Expo will be held at the Lee County Civic Center in Ft. Myers, August 22 and 23.

Enjoy,

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Citrus Greening Update: *Hillsborough County*

Early information on symptom development of citrus trees infected with citrus greening covered the time period from the spring flush through early fruit enlargement. This month we will comment on observations of fruit set on infected symptomatic sections of the tree and the continued development of foliar symptoms during the summer.

When looking at the symptomatic sections of greening infected citrus trees during flowering, it was noticed that a significant amount of flowers were produced on symptomatic sections of the tree. As the tree proceeded through fruit set, a majority of these fruitlets did not set and dropped off the tree. To date it has been difficult to find significant

Affected branch with greening symptoms with bloom on March 27, 2007.

numbers of misshapen fruit during July due to this excessive fruit drop. Some of this fruit drop could be attributable to the dry spring and early summer, but trees

Same affected branch during fruit set on April 26, 2007.

not exhibiting symptoms have good fruit set. We have made observations on asymptomatic trees looking for examples of small, misshapen fruit thinking that this might be one of the early fruit

Affected branch on July 19, 2007 with only one fruit that has set on branch.

symptoms of greening seen this past winter. This idea of fruit symptoms as an early greening diagnostic feature is based solely on the lack of fruit set this spring on symptomatic sections of the tree.

Next we will focus our attention on observations of foliar greening symptoms through the summer. Last month we

mentioned that it appeared that the characteristic blotchy mottle leaf symptoms had a tendency to drop off the tree as the spring flush expanded. The spring flush that expanded from those blotchy mottled leaf buds looked normal during flush expansion. Another greening foliar symptom found on symptomatic trees were main leaf veins that were yellow and raised. This

Photo taken July 19,2007 showing yellow leaf veins on spring flush foliage and older leaves.

particular leaf symptom seems to be consistent with older leaves and newly expanding spring flush on affected sections of the tree. The blotchy mottle symptom seems to be more elusive in this block as a symptom of citrus greening during the spring and summer. I have, however, made some preliminary

The possible development of blotchy mottle leaves within the citrus tree canopy taken on July 19, 2007.

observations on what looks to be the development of blotchy mottle symptoms on infected trees this past week. It seems to appear in areas of the tree where there is an absence of direct sunlight. This occurs on the lower and interior areas of the mature citrus tree canopy. It may also be confined to mature leaves from the previous year. It appears that in this well managed block of infected citrus greening trees, the development of foliar nutritional deficiencies have not occurred to any great extent. It would seem reasonable that this particular symptom, in well managed citrus blocks on good citrus soils, might not be consistent enough to be an aid in the field diagnosis of citrus greening. It could also be a function of the timely application of nutritional sprays that may mask this particular symptom of citrus greening.

2nd Annual Citrus Burn Program Workshop (Certified Citrus Spot)

The Division of Forestry is in the second year of the new citrus burning program designed to benefit grove managers. The program titled, Citrus Spot Burner Program, is intended to aid grove managers by allowing certified citrus pile burns during high fire occurrence days.

The Division of Forestry's Lakeland District will conduct a two-hour workshop detailing the program at the **Stuart Building in Bartow at 9:00 a.m. on August 24, 2007**. In order to take advantage of this program you must attend the annual workshop. The workshop will also cover smoke management practices, recent changes in burning rules and regulations, and a discussion of owner/burner concerns. A site inspection for certifying the burn sites can be arranged after the meeting.

The following is a review of the requirements of the Program:

1) An application, filled out completely for each grove.
2) Map of grove with Section, Township and Range supplied to D.O.F. on 8½ x 1l" paper (several maps can be used to cover larger areas)
3) All pre-approved burn sites must be interior grove, at least 400' from any wooded areas and identified with latitude and longitude coordinates.
4) Once a year, attend a workshop on smoke management practices, burning rules and regulations, and the citrus spot burn program.

The Division encourages your participation in the program. The benefit to the grove owner is it provides for an opportunity to burn on days when they otherwise may not be able to obtain a burn authorization because of high fire weather conditions.

Remember, you must attend this once a year workshop in order to qualify. Please feel free to call, should you have any questions.

Please Respond to**: Florida Division of Forestry , 5745 S. Florida Ave, Lakeland, Florida 33813 (863) 648-3163**

Florida's Certified Pile Burner Program Bartow, FL Sept. 6th, 2007

What are the advantages of becoming a certified pile burner?

1. Certify the person responsible for the burn, equipment operators may receive an abbreviated version of the training. The certified pile burner will be required to sign off each morning at startup and each evening at shut down that the burns piles are correctly located, content is correct, and that the piles are properly extinguished. This is the only way the Pile Burners can operate. To require them to be on site for the entire burn would restrict them to one burn site. They are accustomed to burning in many locations per day. There would not be any benefit to them to become certified and consequently no benefit to the state. The burners that we have spoken with have indicated that their equipment operators would not be able to handle the full program they have in mind for certification.

2. Allow certified pile burners to burn earlier in the day and later into the evening (1 hour after sunset). Allowances will be given by DOF districts for certified pile burners to burn when non-certified will not be allowed to burn based on fire load and Fire Readiness Level, (FRL) and equipment availability.

3. Expedite the authorization process – certification number will bring up account, but location of burn will still be required. (STR, Address, or Lat. & Lon.). The request to notify the fire departments, etc. will not solve the response problem. The fire department will still respond regardless.

4. Issue multiple day authorizations in FRL 1 & 2.

5. Piles must be of size and material to burn in one burn period.

6. Require burner to have heavy equipment (based on new definitions) during marginal burns.

7. Include the "gross" negligence language that is in the prescribed broadcast burners program.

If you are interested in becoming a certified pile burner, please plan to attend this training session. The intent is to make the burning authorization process as streamlined as possible, reduce problems in the field such as out of control fires and smoke drift, and facilitate the proper burning of piles.

There is a $50.00 registration fee for participating in this program. For more information and registration, please call Ryan Atwood or Maggie Jarrell. Phone 352/343-4101, FAX 352/343-2767, email raatwood@ufl.edu or mjarell@ufl.edu

Asian Citrus Psyllid

This past month (July), I have made a number of random field observations on populations of the Asian citrus psyllid. In many groves I observed that if new summer flush was present, it appeared that there was no shortage of psyllids working this new flush. It did appear that young trees seemed to have higher populations. This would be expected due to the abundance of summer flush on these younger trees. In mature trees, psyllid populations do not appear to be as high, and this may be related to the quantity of new flush located on nearby younger trees.

The increase in summer temperatures may be having an overall effect on the length of the psyllid life cycle, but it does not appear to hinder the number of eggs and nymphs found on the summer flush.

It would be a good idea to consult the citrus spray guide when making choices for late summer and fall pesticide applications. If you are in a situation where psyllid populations are excessive, citrus greening is a concern. If leafminers are becoming problematic, then selecting spray materials that have activity on these and additional pests may be advised.

Citrus Soil & Leaf Analysis

Hear are a few recommendations to consider when planning your citrus soil and leaf analysis:

Soil Sampling

Soil sampling can be done any time during the year, but for the most consistent results, samples should be taken at about the same time each year. Mid summer (July to September) would generally be a good time to take these samples for a number of reasons. First, if you are participating in the "Ridge" BMP for nitrogen use you have more than likely scheduled your major fertilizer applications to other times of the year. This, along with the summer rains, should have made most of your last fertilizer application readily available. This should reduce the effect of this recent fertilizer application on soil analysis results. Second, this timing will also coincide with the optimum time for taking leaf analysis and can be done at the same grove locations in an effort to reduce trips through the grove and reduce costs associated with sample collection. A third reason is that results from soil analysis can be used in formulating a fertilizer program or making adjustments in an existing program prior to the fall fertilizer application. It will also allow for the adjustment of soil pH prior to the fall and winter in an effort to optimize the availability of soil applied nutrients.

Instructions for taking soil samples are as follows:

- Identify the smallest grove area or block that you are willing to or have the ability to manage differently.
- Randomly select 15-20 trees within the designated management area.
- Remove one 6" x 1" soil core from within the irrigated zone near the drip line of each of these trees.
- Collect these cores in a clean bucket and mix thoroughly.
- Place a portion of this sample in a soil sample bag for delivery to the lab.

Recommendations from a soil analysis can be beneficial in making decisions over time on trends based on soil phosphorous, pH, calcium, magnesium and copper.

Leaf Sampling

The timing period for acquiring leaf samples for nutritional analysis is critical. Nutritional levels in citrus leaves change over time based on leaf age. It has been determined that 4 – 6 month old leaves from non-fruiting twigs should be used for this analysis. This timing will result in leaf samples being from July to September, depending on the date of the spring flush. This can easily be done at the same time and from the same trees as soil sampling.

Leaf analysis can provide additional information not produced from a soil analysis. Leaf analysis can provide a quantified measure of the mineral concentration contained in citrus leaves at the time of sampling. This information can be useful in identifying trends over time in changes in the nutritional status of sampled trees. It would be beneficial to minimize the variation from tree to tree by taking samples from the same trees from year to year. It should also be noted that nutritional sprays applied to these spring flush leaves might still have residual amounts of minerals and should be surface washed with deionized water before sampling. If the leaves were recently sprayed with nutritional materials, it will be difficult to obtain accurate results from a leaf analysis.

Instructions for taking leaf samples are as follows:

- Identify the smallest grove area or block that you are willing to or have the ability to manage differently.
- Randomly select 15-20 trees within the designated management area (use same trees as soil analysis if possible).
- Remove leaves from 4-6 month old non-fruiting spring flush twigs using about 8-10 leaves from these trees for a total of at least 100 leaves for analysis.
- Combine leaves into a sample bag and deliver to lab for analysis.

The information gleaned from this leaf analysis can be useful in identifying trends in the concentration of mineral elements contained in the sample. The mineral concentrations tested include nitrogen, phosphorous, potassium, calcium, magnesium, chlorine, sodium, manganese, zinc, copper, iron, boron and molybdenum.

Sales Tax Exemption for Agricultural Electricity

Electricity used for the production or processing of farm products on a farm is exempt from sales tax. Previously, the exemption was limited to electricity used "directly and exclusively" for the production or processing of agricultural farm products on a farm**.**

The exemption was expanded and now applies to electricity used for indirect purposes in the production or processing of farm products on a farm. Indirect use includes electricity used to: supply power to facilities located on a farm used to repair farm equipment, supply power to administrative offices located on the farm, and supply power for restroom facilities located on a farm. Each of the examples listed must have some connection with producing and processing farm products on a farm.

Examples of qualifying production equipment include irrigation pumps, milking machines, potting equipment, feeding systems, aerators, and computerized monitoring equipment. Examples of processing equipment include conveyors, chillers, freezers, packaging equipment, and computerized processing equipment.

The exemption only applies if the electricity is separately metered from any electricity used for non-production or non-processing purposes, such as, in a retail facility or other non-exempt use. If the electricity is centrally metered and the electricity is used for both tax-exempt and taxable purposes, the purchase of the electricity is taxable.

For purposes of this exemption, the following terms are defined:

Farmer means a person who is directly engaged in the business of producing crops, livestock, or other agricultural commodities. The term includes, but is not limited to, horse breeders, nurserymen, dairy farmers, poultry farmers, cattle ranchers, apiarists, and persons raising fish. (Section 212.02(28), Florida Statutes)

Agricultural production means the production of plants and animals useful to humans, including the preparation, planting, cultivating, or harvesting of these products or any other practices necessary to accomplish production through the harvest phase, and includes aquaculture, horticulture, floriculture, viticulture, forestry, dairy, livestock, poultry, bees and any and all forms of farm products and farm

production. (Section 212.02(32), Florida Statutes)

Processing means the act of changing or converting the nature of a product after it has been harvested. (Rule 12A-1.087(2)(g), Florida Administrative Code)

Electricity that is separately metered and used to supply power to greenhouses, poultry houses, dairy barns, horse stables, and processing facilities located on a farm is also tax exempt.

To qualify for the exemption, the purchaser must furnish the utility provider with an exemption certificate stating that the electricity will be used for the production or processing of agricultural farm products on a farm. In instances where the utility provider accepts an exemption certificate in good faith, the Department will look to the purchaser for any applicable tax, penalty, or interest due.

References: Section 1, Ch. 2007-56, L.O.F.

FOR MORE INFORMATION

This document is intended to alert you to the requirements contained in Florida laws and administrative rules. It does not, by its own effect, create rights or require compliance.

For forms and other information, visit the Internet site at www.myflorida.com/dor. Or call Taxpayer Services, 8:00 a.m., to 7:00 p.m., ET, Monday through Friday, excluding holidays, at 800-352-3671 or 850-488-6800.

Persons with hearing or speech impairments may call our TDD at 800-367-8331 or 850-922-1115.

For a detailed written response to your questions, write the Florida Department of Revenue, Taxpayer Services, 1379 Blountstown Highway, Tallahassee, FL 32304-2716.

Pesticide News and Information

Fruit Fly Found In Valrico

VALRICO - Florida Agriculture and Consumer Services Commissioner, Charles H. Bronson and U.S. Department of Agriculture officials, announced today that state and federal agricultural inspectors are working aggressively to set fruit fly traps in the Valrico vicinity in response to finding a single male fruit fly related to the Oriental fruit fly (Bactrocera dorsalis complex). The fly was found in a trap hanging in a sweet orange tree this week during a routine inspection.

With a wide host range of over 100 different fruits and vegetables, fruit flies are one of the most potentially destructive pests in the world. Most of Florida's crops, including citrus, fall within the host range, which makes it imperative to act quickly and decisively when any species of fruit fly is found. Adult female fruit flies will deposit several eggs under the skin of a host fruit or vegetable. The larvae hatch from the eggs and tunnel through the pulp, turning it into a rotting mass.

Commissioner Bronson said inspectors with the Florida Department of Agriculture and Consumer Services and USDA have already begun intensive trapping in an 81 square mile area surrounding the location where the male fly was detected. The traps are baited with a methyl eugenol lure that is particularly attractive to male Oriental fruit flies. Department inspectors routinely check about 6200 traps in Hillsborough County, including 1446 baited with methyl eugenol.

Once intensive trapping determines whether this fly is simply a hitchhiker or part of a larger population, agriculture officials will recommend a course of action. Because methyl eugenol lures are so effective, if more flies are detected, eradication efforts may be confined to simply applying the lure high on tree trunks and utility poles until the male population is decimated.

Asian Citrus Psyllid Control

Recent research information from Dr. Michael Rogers, UF, Citrus Research and Education Center indicates that foliar applications of Sevin XLR have been effective in controlling the Asian citrus psyllid. The research has been done using a rate of 2 quarts of Sevin XLR per acre. Bayer CropScience has indicated that it now has a 2ee label for control of the Asian citrus psyllid on Florida citrus.

One additional concern with the use of Sevin XLR is that it has been demonstrated to increase spider mite populations and this should be taken into account when making a decision on its use.

Orange Jasmine

The Florida Department of Agriculture and Consumer Services (FDACS) and the United States Department of Agriculture has determined that Murraya paniculata (orange jasmine) is a host for citrus greening disease. The FDACS has issued a notice of intent to add orange jasmine to the citrus greening host plant list. It would require that plants be grown in a screen house structure to exclude the Asian citrus psyllid. It does however, allow for the liquidation of current orange jasmine inventories through December 31, 2007.

Additional Meetings of Interest

Citrus Packinghouse Days

Mark your calendars for Citrus Packinghouse Day at the Citrus Research and Education Center in Lake Alfred on September 6th, and the Indian River Postharvest Workshop at the Indian River Research and Education Center in Ft. Pierce on September 13th. Both programs begin at 9:30 AM.

This year both programs will again focus on presentations, discussions, and workshops about how to successfully ship fresh citrus under changing citrus canker regulations.

Presentations include:

- Changing regulations for the new season.
- The latest research results from leading pathologists.
- Update on work to improve electronic grading of canker.

- Argentine trip report on canker-related pre- and postharvest practices.

Training sessions, with certificates of completions, will also be available covering:

- Canker identification on fresh fruit.
- Good worker health and hygiene practices.

For more information contact Dr. Mark Ritenour at (772) 468-3922, ext. 167 (mritenour@ifas.ufl.edu), or visit the University of Florida Postharvest Resources Website (http://postharvest.ifas.ufl.edu).

CREC's 90th Anniversary Celebration

The University of Florida, the Institute of Food and Agricultural Sciences, and the Citrus Research and Education Center are pleased to announce the CREC's 90th Anniversary Celebration Wednesday, Nov. 7, 2007 in Lake Alfred.

Also that day, the new Plant Pathology Building will be dedicated, as well as the rededication of a newly renovated Ben Hill Griffin, Jr. Citrus Hall. Additional details will be in subsequent citrus newsletters.

Application of Precision Agriculture for Fruits and Vegetables

LAKE ALFRED, FL – The International Symposium: "Application of Precision Agriculture for Fruits and Vegetables" will be held Jan. 6 – 9, 2008 at the Grosvenor Resort in Orlando.

The Symposium topic is precision agriculture use in horticulture and will use scientific sessions, posters, and technical tours to provide an opportunity to discuss and learn about cutting-edge technologies in several areas.
During this four-day event the Symposium will provide a forum for the exchange of ideas among researchers, academics, professionals and related industries on applying advanced technology and information-based management techniques for fruit and vegetable production.

Dr. Gene Albrigo, Professor of Horticultural Science, Citrus Research and Education Center (CREC), University of Florida (UF), Institute of Food and Agricultural Science (IFAS), and co-convener, said this will be a unique opportunity to learn about the latest work in several fields related to precision applications for horticultural food crops. These include site-specific management (remote sensing, yield monitoring, GIS) and sensing and control systems (automation, sensors, stress detection).

The Symposium sponsors are the International Society for Horticultural Science; the International Society of Citriculture; the American Society of Agricultural and Biological Engineers; and the UF, IFAS, Citrus Research and Education Foundation. The symposium is hosted by the faculty of the CREC, UF/IFAS.

For more information on how to register for the Symposium, visit www.precisionag2008.com or call Dr. Reza Ehsani, Assistant Professor, or Christen Taylor, Public Relations Specialist, at the CREC, UF/IFAS at (863) 956-1151.