UF UNIVERSITY of FLORIDA | IFAS EXTENSION

Citrus Notes

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Inside this Issue:

Dear Growers,

This month we will be holding our Citrus Roundtable in Seffner. It is also the time of year to start preparing for the winter and signing up for the Winter Weather Watch. For the first time ever we will be offering a free introductory offer for you to tryout the Winter Weather Watch. The following number will allow you to tryout the forecast system free for the period of November 1 to November 14, 2008. After that you will need to signup and register if you wish to continue to have access to the weather forecast information. We have arranged to have personal hygiene training for citrus harvesters to comply with additional requirements for certain export markets. The Annual Citrus Worker Safety Training Program and Tractor Rodeo is scheduled for November. We have also provided some information and ideas for managing vegetative growth of citrus trees during the winter.

Enjoy the issue,

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November Citrus Roundtable

Our November Citrus Roundtable will begin at 10:00 a.m. on Wednesday, November 5, 2008. The Roundtable will be conducted in the large conference room at the Hillsborough County Cooperative Extension Service Office at 5339 CR 579 in Seffner. This month Dr. Lukasz Stelinski, Research Entomologist from the Citrus Research and Education Center in Lake Alfred will be presenting our program. Dr. Stelinski has done some extensive work in the control and suppression of citrus leafminer and the Asian citrus psyllid. Most of this work involves insect behavior and insect pheromones.

One CEU for your Restricted Pesticide License will be available in the private and agricultural tree crop categories. So plan to join us for some OJ, coffee and donuts on Wednesday, November 5, 2008 in Seffner.

Personal Hygiene Training

This fall there have been a number of harvesters interested in personal hygiene training for their employees. A number of packinghouses are required to provide this information to certain export markets (buyers) before fresh citrus can be certified for export. This new stipulation is part of the GLOBALGAP requirements for fresh citrus exports. We will be providing personal hygiene training at the Stuart Conference Center at 1710 Highway 17 South in Bartow on Wednesday, November 12, 2008 beginning at 9:30 a.m. In order to attend and receive documentation for your attendance you must pre-register using the information contained in the enclosed flyer.

Annual Citrus Employee Safety Training and Tractor Rodeo

Mark your calendars for Wednesday, November 19, 2008 for our annual citrus employee safety training. This training is designed to help you meet the minimum annual requirements for safety training for you citrus employees. This year we will be covering equipment safety, pesticide safety, sun exposure safety and hearing protection. In addition we will provide the required citrus canker decontamination and exotic citrus disease identification training. The citrus training is in fulfillment of the Florida Department of Agriculture and Consumer Services, citrus health response plan (CHRP) or citrus compliance agreement. Note that even if your current compliance agreement is in force the business plan stresses the importance of annual training in disease identification and decontamination. The enclosed flyer has the details and registration information for the program. The registration fee this year is $15 per person and includes all materials, certificates and lunch. CEU's will available for your Restrict Use Pesticide License.

2008-09 Edition of the Winter Weather Watch

The 2008-09 edition of the Polk County Winter Weather Watch program will begin on November 15, 2008. The program provides growers with winter weather forecast infor-

mation specifically geared toward agricultural interests in West Central and South Florida. The program provides subscribers with an unlisted phone number for (24 hour/7 days a week) access to daily weather forecasts. The zone forecasts are from the National Weather Service (NWS) and are listed on the automated phone menu, so you can select the products you are interested in. Forecasts include the zone forecasts, 6-10 and 8-14 day outlook forecasts. In addition to the forecasts we have special weather narratives provided as needed in the event of freezing temperatures and a weekly outlook provided by Fred Crosby (retired Ruskin NWS meteorologist-in-charge). Fred has extensive experience in forecasting in Florida and has been exclusively assisting us for a number of years. When freezing temperatures are predicted in our area additional updates will include the afternoon zone forecast and the modified sunset brunt minimum temperature equation. If this is not enough we will also provide the weekly citrus leaf freezing temperatures and the 2008-09 Winter Weather Watch manual.

Subscriptions for the Winter Weather Watch program are only $100.00 for the entire 4 month period (Nov 15 to Mar 15). The cost is about the same as one tank of gas for your pickup truck. You can subscribe to the Winter Weather Watch by filling out the enclosed registration form and sending your payment to the address listed on the form.

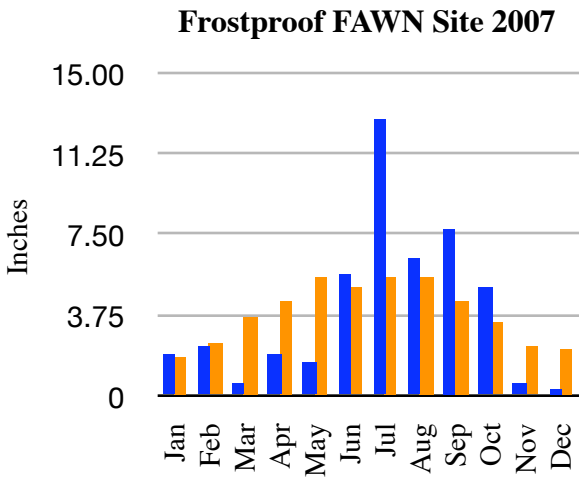
Limiting Mature Citrus Tree Growth During the Winter

Asian citrus psyllid reproduction requires developing young citrus flush for the completion of their life cycle. Furthermore, recent research indicates that in groves where citrus greening positive trees have been detected less than 1% of the wild psyllid adults test PCR positive for greening. Psyllid nymphs feeding on greening infected shoots are much more likely to contract the greening bacterium, and as adults, test PCR positive. This demonstrates the importance of new citrus flush not only in psyllid reproduction but as a potential site for citrus greening acquisition by immature psyllid nymphs. In thinking about methods to reduce potential psyllid populations, one could look at times of the year where there is a natural reduction in the vegetative growth of citrus trees and used this information to ones advantage.

By understanding the interaction of cultural and environmental factors growers may reduce and eliminated unwanted vegetative growth during the winter. This should result in the significant reduction in the reproductive plant material (new flush) needed by psyllids to complete their life cycle. Specifically these factors include water, temperature, day length, pruning and initiation of the spring flush.

Dr. Jim Syvertsen, Professor and Plant Stress Physiologist from the UF/IFAS Citrus Research and Education Center stated that “water is the most important plant growth regulator”. Water is required for the transport of mineral nutrition from the root system throughout the citrus tree. As a key component in plant photosynthesis, if water is limited, the amount of energy available for plant growth will be reduced. Water deficits in citrus trees will cause a cessation of vegetative growth. Having this knowledge will provide us with the basis for the careful monitoring of any additional water application to citrus trees during the winter. In Florida water during the winter is provided by either rainfall or irrigation. There are a number of months during the

winter in which evapotranspiration exceeds rainfall and a natural water deficit occurs. Growers have no control over rainfall but, in Florida during the winter most rainfall events precede cold fronts with a subsequent drop in average air temperatures following the passage of the front. Irrigation, on the other hand, is completely under the control of the grower. The scheduling of irrigation during the winter should be based on providing the minimal amount of water to maintain fruit quality and quantity (preventing fruit drop). Understanding this concept, growers should not make applications of water in the winter on a schedule developed for the fruit set period (spring). Growers can follow evapotranspiration (ET) from a local Florida Automated Weather Network (FAWN) station (http://fawn.ifas.ufl.edu/). The "tools" section found on the FAWN website can help you determine the approximate amount of ET. This can be compared to rainfall and site specific irrigation applications to determine if a water deficit exists. This reduction in water to the tree will also enhance citrus tree cold hardiness during the winter and stimulate increased flower production in the spring.



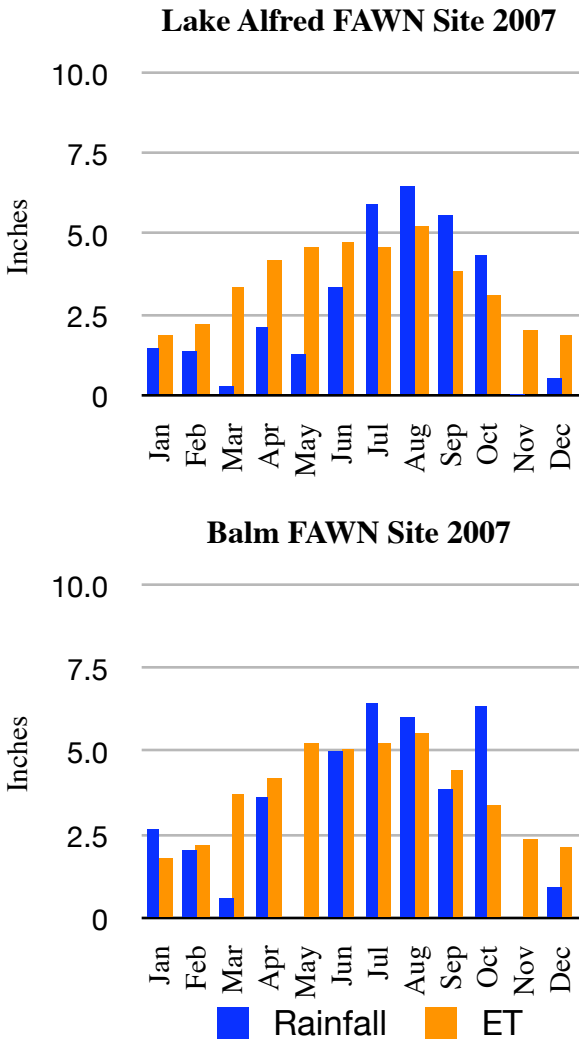


Figure 1. *Monthly ET versus rainfall for 2007 for 3 FAWN sites.*

Air temperatures below 55^0 F will result in a reduction of citrus tree growth and an increase in tree cold hardiness. This response can be reversed during the winter when water and temperature become favorable for citrus tree growth. Warmer periods during the winter may cause a loss of cold hardiness but, will not always result in the initiation of vegetative tree growth. Other factors that play a significant role in preventing the initiation of vegetative tree growth during these warm periods are water stress and day length. Winter air temperature information can be used to the growers advantage in reducing citrus tree growth in Florida during the winter. If tem-

perature conditions, will be favorable for growth, then growers may want to reduce irrigation to delay or stop this vegetative growth. This temperature benefit may not necessarily be as great moving south down the peninsula into the citrus production areas of south Florida.

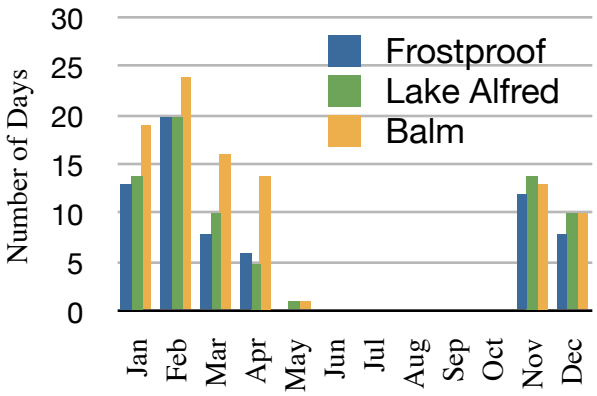


Figure 2. *Number of days when minimum temperature is below 55^{0}F for 3 FAWN Sites.*

Day length is seldom considered when discussing citrus tree growth. Studies have shown that day length does play an important role in the overall reduction of citrus tree growth. As the days get shorter following the fall equinox in September, shoot growth in citrus is reduced compared to long day shoot growth. This reduction in shoot growth does not indicate an increase in tree cold hardiness but, that citrus trees grow more with increased day length. If you think about it, day length is a contributing factor to the spring flush (spring equinox) being mostly composed of shorter shoots and small leaves when compared to the characteristically long shoots produced on citrus trees during the summer.

Citrus pruning, specifically hedging and topping, can have an affect on citrus cold hardiness and the stimulation of tree growth. In a recent study, maintenance pruning after mid-September in central Florida did not stimulate an additional vegetative growth flush. This timing seems to collaborate previous information presented (fall equinox) on the effect of day length on reducing tree growth. This practice has been shown to have very little effect on subsequent yields if completed prior to mid-November in central Florida. Growers in other growing regions of Florida should adjust this timing based on grove location north or south of central Florida. Historically, the greatest considerations in hedging and topping in Florida during the winter are the potential yield reductions and removal of tree canopies resulting in an increase in cold sensitivity of the tree. Growers may want to carefully consider the pros and cons of their current pruning practices based on the presence or absence of citrus greening in a particular grove.

Today, growers have access to a citrus flower induction model (http://www.minuetto.net/bloom/) developed by Dr. Gene Albrigo, Horticulturist from the UF/IFAS Citrus Research and Education Center. This model predicts the date when citrus bloom will occur based on fall and winter environmental conditions. This information can be extremely useful in scheduling the timing of psyllid sprays that need to be made prior to the initiation of the spring flush. If using systemic insecticidal materials, these require a period of time for tree uptake and translocation. Knowing the approximate date of citrus flowering, a grower can anticipate the spring flush by subtracting about 1 to 2 weeks from the predicted flowering date. This information can also be useful in making decisions on the selection of foliar applied materials. Most of these materials have precautionary statements on the label about use when bees are actively forging during the bloom period. Sprays can then be timed to make insecticide applications prior to the presence of citrus flowers. In addition the model predicts the occurrence of multiple blooms or extended bloom periods. This may provide growers information that can be used in making decisions on insecticide selection.

In conclusion, growers should consider practices and understand the environmental conditions that limit citrus tree growth and use this to your advantage. The reduction or elimination of vegetative growth could augment your psyllid suppression and greening management program without increasing your production costs.

Syngenta Summer Internships

Syngenta Crop Protection today announced the company is beginning recruitment for its 2009 Florida internship program.
The summer-long internship will allow students to be involved in sales, marketing and field activities as well as building customer relationships through work with growers, retailers and manufacturers.

Syngenta currently recruits sophomores and juniors in college, though seniors will be considered. The candidate should have a background in agriculture and an interest in pursuing a career in the agricultural industries after college. Interns will be responsible for a variety of field activities, including scouting, soil sampling and collecting and analyzing agricultural data. Qualified applicants should be willing to work outdoors and must have basic familiarity with pest, disease and weed control.

At this time, six intern positions are available, and Syngenta plans to interview candidates through February 2009. Interns will be placed across various regions of
Florida and must be willing to relocate if necessary.

Interested candidates should fax their resumes to John Taylor at 561-694-7939 or e-mail them to john.taylor@syngenta.com.