



Citruslines

The Mission of UF/IFAS is to develop knowledge in agricultural, human and natural resources and to make that knowledge accessible to sustain and enhance the quality of human life.

Summer 2008

July, August, & September

UF UNIVERSITY of FLORIDA

IFAS Extension

Lake County Extension



Upcoming Events

<http://cfextension.ifas.ufl.edu/calendar.shtml>

OJ Meeting	Deland	July 15th
Tour of USDA Research Grove	Groveland	July 17th
Citrus Expo	Fort Meyers	Aug. 20 & 21st
Pesticide Applicator Review & Exam	Orlando	Aug. 21st
OJ Meeting	Tavares	Sept. 9th
Statewide Greening program	Tavares	Sept. 30th

Dear Growers,

I want to thank all of you for your support of our extension programs and IFAS. I am particularly grateful that you voiced your opinion on the budget situation. IFAS received it's share of the budget cuts, but it was exactly that...fair! I truly believe that if it were not for those of you who called and wrote letters to Dr. Machen and your local politicians IFAS' budget would have been cut in disproportion to the rest of the University. I am grateful to work with such dedicated people. I promise that I am equally as committed, working hard for you growers, striving to be the best extension agent that I possibly can. Thanks for your support!

COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF FLORIDA, INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES, Larry R. Arrington, Director, in cooperation with the United States Department of Agriculture, publishes this information to further the purpose of the May 8 and June 30, 1914 Acts of Congress; and is authorized to provide research, educational information, and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions, or affiliations. Single copies of extension publications (excluding 4-H and youth publications) are available free to Florida residents from county extension offices. Information about alternate formats is available from IFAS Communication Services, University of Florida, PO Box 110810, Gainesville, FL 32611-0810.



Are there psyllids living in “abandon groves” and in pine forests with understory citrus trees?

I continue to monitor understory citrus trees in Central Florida that were abandoned many years ago and now reside under pine stands. From the sticky traps and observations I have made, it is my conclusion that a small population of psyllids do live in these trees during times of flush. Psyllid counts made from the sticky traps have been relatively small considering no type of psyllid control measures. Also sticky traps that were hung and counted later in the Spring (May-June) had no psyllids, during this time period we had relative little to no rainfall in these areas. I had some question on these locations and I thought I would elaborate in more detail. My two primary sites are located in Orange and Lake counties. One location is under pine and the other is a block of abandoned grapefruit. The under pine trees are located approximately 0.25 miles from an actively managed citrus grove. It also has an approximate density of 25 trees to the acre under the pine canopy. There is around 100 acres of this type of arrangement (pine with citrus understory) within a (1) one mile radius. So this location is not isolated. The abandoned grapefruit block is located in an area with multiple actively managed groves located within a (1) one mile radius. Both sites in my opinion would be typical of other abandoned or understory trees that would be found in different part of Central Florida. The abandoned grapefruit grove also had no flush during the dry spring for psyllids to reproduce on and I could not find any psyllids during my scouting efforts. I will continue to monitor psyllid population levels throughout the summer and fall months to report the annual cycle in these areas.



Pherocon AM No-Bait Traps are used to monitor psyllid population levels. They can be a tool to help you make decisions concerning your psyllid control spray program. Make sure to purchase the **No-Bait** traps as the baited traps will be full of flies after a 24 hour period. The traps cost around a dollar and can be purchased from either:

Trece Inc. Phone: (866) 785-1313
or
Great Lakes IPM: (800) 235-0285

Observed psyllids on traps during the early spring. A magnifying lens is required for id.





2007 FSHS Citrus Sections Best Paper: Georeferenced Ground Photography of Citrus Orchards to Estimate Yield and Plant Stress for Variable Rate Technology. *Proc. Fla. State Hort. Soc.* 120:56–63.

2007 **ARNOLD W. SCHUMANN***, KEVIN HOSTLER, JUAN CARLOS MELGAR AND JAMES SYVERTSEN

This past June I attended the Florida State Horticulture Society (FSHS) meeting. As usual I found it to be full of good research information. Some citrus growers attended but overall it was a small number. I think that the information presented is of value to growers and the opportunity to interact with researchers one on one is good as well. In the spirit of promoting the FSHS meeting, below is the abstract written by the authors (above) of the 2007 Best Paper from the citrus section FSHS annual meeting.

Citrus canopy measurements with ultrasonic and optical sensors are being used in Florida to control the placement and rate of fertilizers and pesticides with variable rate application (VRA) spreaders. A significant reduction of fertilizer or pesticide consumption is possible simply by applying agrochemicals only to orchard space occupied by trees with dense canopies. Additional refinement of agrochemical VRA may also be possible if fruit load (especially on alternate bearing trees), flowering intensity, and leaf nutrient stress could be measured on the tree canopies. Detection of early (mild) water stress before leaf wilting becomes visible and reduces yield, could be used to schedule irrigation, manipulate flower and leaf flushes, or improve fruit quality. In this study we developed ground-based digital photography systems to study the characteristics of citrus tree canopies over large areas. A color digital camera mounted on a moving vehicle was used to capture georeferenced overlapping images of tree canopies in entire orchards. Images were stored on a laptop computer and were processed using red–green–blue (RGB) pixel ratios and thresholds to identify and quantify numbers of mature fruit. A monochrome digital camera with visible and near-infrared bandpass filters was used to develop a multispectral imaging system capable of rapidly detecting early water stress in tree canopies. Significant correlations were achieved between the water stress index developed with the camera system and stem water potential measurements used for quantifying water stress in citrus trees. The water stress index could also detect, quantify, and map the severity of blight disease in orchard trees for an entire block.

The use of new technology for increasing efficiency in agricultural production in Florida and the rest of the country is important and will become more important to compete with the rest of the world. In the U.S. we do not have the cheap labor that is available in other parts of the world. However, we do have technological ingenuity which can help reduce our agricultural inputs and increase our outputs, giving greater returns in agricultural operations. The use of technology for agriculture processes will play an increasing important role in the future.



OJ Meeting— July 15th 5-7PM Volusia Co. Extension Office

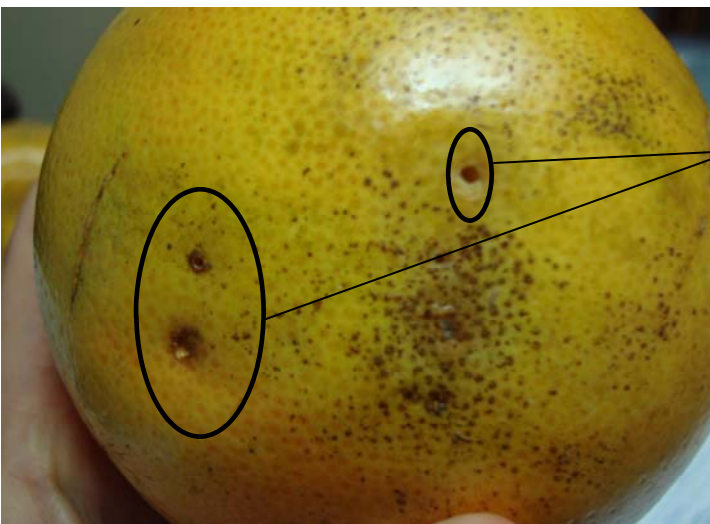
Please plan on joining us in Deland at the Volusia County Extension Center on SR 44 on July 15th from 5 PM to 7 PM. The program will focus on greening management research. A free dinner will be provided. Please call Maggie by July 10th to register at 352-343-4101. It is important that you let us know if you are going to attend so that we know how much food to order!

- 5:00-5:45 Dinner
- 5:45-6:00 Initial results of ULV for psyllid control-Ryan Atwood
- 6:00-6:30 What we are learning about HLB pathogen in citrus plants
-Dr. Megan Dewdney
- 6:30-7:00 HLB symptomatology and plant nutrition and thoughts on the Brazil citrus industry -Dr. Tim Spann

Directions to the Volusia Co. Extension office:
From I-4 West, take Exit #118 to get onto State Road 44 (E. New York Avenue) heading east. The Extension office is about ¼ of a mile down the road, on the right.

USDA Research Grove Tour Groveland July 17th 8-10AM

There will be a tour of the A.H. Whitmore Florida Citrus Research Foundation Farm (Whitmore farm) on Thursday July 17th from 8-10AM. The Whitmore farm is currently used exclusively by scientists in the USDA, ARS Genetic Improvement of Citrus CRIS project. A collection of more than 500 important citrus scion and rootstock varieties is maintained at the farm. This material serves as an important resource for the program. Several greenhouses that are compliant with DPI regulations at the farm are used to produce seedlings and grafted trees that are used in field trials. Field trials are conducted with individual own-rooted seedlings as well as replicated trials of grafted trees. A new effort to reduce the juvenility period and thereby shorten the time required for initial selection has recently been initiated. If you would like to ride in the van from the Agricultural Center in Tavares, please respond to Maggie at 352-343-4101 or mjarrell@ufl.edu. We will be leaving the Ag. Center at 7:30 AM.



Have you seen any fruit with these symptoms?

I received some grapefruit and Valencia oranges that had damage similar to the fruit on the left. I spoke to this grower to try and get this pest identified by university scientists. The grower sent in a box of fruit however we were unable to isolate the pest to identify. I was speaking with a different grower who said some of his fruit had similar damage. If you have seen any fruit with similar symptoms please give me a call. I would like to try and collect a sample (most likely will not see this until next spring) for identification.



Pesticide Applicator Review and Exam Orlando Aug. 21st

A pesticide license is required by any persons who apply or supervise the application of restricted use pesticides for agricultural production. This certification requires a passing grade of 70% on the General Standards and Private exam. This certification must be renewed ever 4 years either by testing or by 8 CEU's.

There will be a review and exam in Orlando on August 21st. The review starts at 8:30 AM. There is a \$20 charge for the class.

It is advisable to purchase the "Applying pesticides correctly" and "The private applicator training manual" from the IFAS bookstore online at www.ifasbooks.ufl.edu or by calling 800-226-1764.

The private agricultural license itself costs \$60 which does not have to be paid until after you pass the exam. To register please call Celeste White at 407-254-9200.

OJ Meeting— September 9th 5-7PM Lake Co. Extension Office

Please plan on joining us in Tavares at the Agricultural Center on September 9th from 5 PM to 7 PM. The program will focus on citrus economics with specific emphasis on the cost of greening management. Should you reset your grove? What do economist feel future fruit prices will be? A free dinner will be provided. Please call Maggie by September 5th to register at 352-343-4101. It is important that you let us know if you are going to attend so that we know how much food to order!

- 5:00-5:45 Dinner
- 5:45-6:10 Citrus fruit price outlook
-Dr. Tom Spreen
- 6:10-6:35 Economic analysis of greening management and control
-Ron Muraro
- 6:35-7:00 Economic analysis of resetting versus not resetting groves
-Allen Morris

Multi County Extension Agents Greening and Canker Management Update

September 30th 10AM-Noon followed by free lunch at Lake Co. Extension Office

Please plan on joining the citrus multi county extension agents in Tavares at the Agricultural Center on September 30th from 10AM-Noon for a Statewide Citrus Greening and Canker Management Update. A free BBQ lunch will follow the program. Please call or email Maggie by September 26th to register. It is important to let us know that you are planning on coming so we can order the appropriate amount of food. Make the call today! Topics include last information on psyllid control including ULV applications, product effectiveness trials, micronutrient effects, open hydroponic systems, leafminer pheromone update, hedging/topping effects, and more.



Climate information for managing risks symposium: Partnerships and solutions for agriculture and natural resources

Earlier this month I attended the climate information for managing risks symposium. I was hoping to stay current with any information that might factor into our Weather Watch program and help with managing freeze risks in Central Florida. I am not sure that objective was met but I did learn some thought provoking things that I thought I would share.

There was a lot of talk of climate change and climate variability, many of the scientist presented their research results concerning these issues. There seemed to be a theme that severe climate may be coming more common, many pointed to the recent flooding in the plain states as an example. One line that was used is that these one hundred year events are occurring on a more frequent basis.

There were also some conflicting view points on as to whether or not climate change meant that warming or cooling was or would take place. Seems that many of the researcher's models are predicting temperatures above the historical averages. Weather records are a relatively recent data set in the overall history of mankind. A scientist from the University of South Florida presented on techniques using core samples from Florida lakes to trace some temperature fluctuations over thousands of years. He even made the statement that the subtropical line could move from the I-4 corridor to south Georgia. This statement seems wild to me, but if it did can you say south Georgia citrus production. A wild idea.

Of more interest to me (maybe because it was easier for me to understand) was the is-

sue of potential carbon credits. Much has been made on carbon credits in other ventures such as forestry, but lately talk has included agricultural producers. For those that are not current with this topic there is a carbon exchange in Chicago were carbon credits can be bought or sold (similar to the stock exchange). Those who produce excess CO2 emissions (such as factories) can buy CO2 credit from "green" landowners. Since agriculture requires fertilizer, pesticides, harvesting, fuel using production equipment, and power for wells; they have traditional not been included in the CO2 credit debate.

At this conference there was mention of agriculture being exempt from carbon regulation (not sure if this is a proper term) and also mentioned that there may be potential for a rebate if agricultural producers were efficient in the use of production inputs. Who will set these production input limits? I don't know and I am not sure anyone does at this point in time, as it is just an idea being thrown around. However, it is worth paying attention to as there is the possibility of future consequences in agricultural production and potentially some income generated from carbon credits.

I think the take home message is there is much, much more research needed to understand climate variability and its potential effect on agricultural production on a regional level. This is a topic that while somewhat unproven, controversial, and long term in scope is worth keeping an eye. It maybe in the future that carbon regulations and carbon credits impact the way that we produce agriculture in Central Florida.



Local Harvest a internet Farmers Market— Potential tool for small farmers

I recently learned of the local harvest website <http://www.localharvest.org/>. It is a online market place for agricultural producers. It could be an alternative source of direct marketing some of your fruit. It has community cooperatives, restaurants, farms, and grocery store directories. It serves as a type of online farmers market. When searching Tavares, FL it brings up familiar local businesses such as Long and Scott farm in Zellwood and the local farmers market in Eustis. When searching citrus in Florida familiar names such as the Orange Shop in Citra and unfamiliar names to me such as Kumquat Growers in Dade City. Overall there are not many producers listed and may offer an opportunity as an avenue to sell your fruit for a small farmer. An old wise extension agent told me the best citrus growers were the ones who knew how to market their fruit.

Citrus Research gets funding plus top scientific advisors from around the country are getting involved.

Show me the money! This was a famous line in the movie Jerry McGuire which was based on a the life of a sports agent. Jerry (the agent) was talking to one of his clients. The client was telling him to get a contract with lots of money. For most things in life money is a necessity and the more you have the more you can accomplish. That is why the funding by the DOC of 20 million dollars dedicated to greening research is huge. The past year greening research was funded at the tune of seven million dollars and this research has lead to a better understanding of greening disease and its vector the Asian citrus psyllid. With 20+ million dollars the Florida citrus industry has caught the attention of scientists around the world. The box tax proposal period has begun and these proposals will be evaluated with the help of the National Academy of Science (NAS).

Since 1863, the leaders of our country have turned to the National Academy for advice on the scientific and technological issues. Most of the institution's science policy and technical work is conducted by its operating arm, the National Research Council, created expressly for this purpose. These are non-profit organizations which provide a public service by working outside the framework of government to ensure independent advice on matters of science, technology, and medicine. They enlist committees of the nation's top scientists and other experts, all of whom volunteer their time to study specific concerns. The results of their efforts have inspired improvements in Americans health, education, and welfare. The Academy's service to government has become so essential that Congress and the White House have issued legislation and executive orders over the years that reaffirm its unique role. The NAS will serve in an advisory role to the Box Tax Committee who still has the final decision on citrus greening funding. Now the that there is money for research, soon it will be "show me the results"!



The Vision for the University of Florida's Institute of Food and Agricultural Sciences (UF/IFAS) is to increase and strengthen the knowledge base and technology for:

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- Expanding the profitability of global competitiveness and sustainability of the food, fiber, and agricultural industries of Florida.
- Protecting and sustaining natural resource and environmental systems.
- Enhancing the development of human resources.
- Improving the quality of human life.

The multi county citrus agents website.

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



Also the Central Florida citrus extension website is much improved and will continue to be updated & improved.

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



This summer I have been exploring possible enhancements to the weather watch program. The company that I bought my Nextel from has agreed to offer a discount for citrus growers who are participating in my Weather Watch Program. They are willing to waive the \$36.00 activation fees and give a discount of \$25.00 off each phone purchased. The nice part of having a Nextel with direct connect is that it allows for me to talk with a group of growers (19 growers + myself) during a freeze event. If you are interested in having direct connect capable phone please contact Mary Graham 352-636-3821 or Melinda Miller at 352-636-3224 with Affordable Cellular.



I often get unusual questions or interesting opportunities to determine unique problems. I thought I would share as the possibility of others having the same question may exist.

Question: What are these snails?

Answer: *Bradybaena similaris*, which is an introduced Asian snail.

These snails tend to eat tender young shoots of herbaceous plants. They also scrape yeast and algae of leaves and hard plant surfaces. They do **NOT** hurt citrus trees.

