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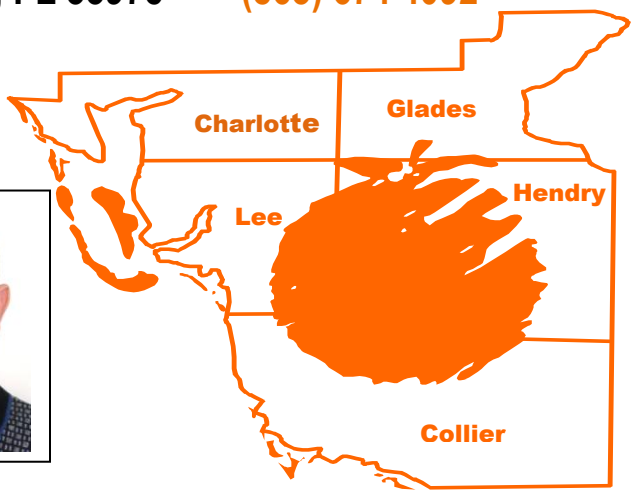

Vol. 11, No. 11 November 2008

Dr. Mongi Zekri
Multi-County Citrus Agent, SW Florida

U P C O M I N G E V E N T S

Application of handheld computers, GPS, and GIS software for controlling HLB and canker

Date: Tuesday, November 18, 2008, Time: 8:00 AM– 1:00 PM
Location: Southwest Florida REC (Immokalee)
Speakers: Drs. Reza Ehsani and Arnold Schumann & Ms. Sherrie Buchanon
A total of 4 CEUs for pesticide license renewal and 4 CCAs will be offered
RSVP is required. Seats are available to the first 30 people.
To RSVP, call 863 674 4092 or send an e-mail to maz@ifas.ufl.edu

If you want to print a color copy of the **Flatwoods Citrus** Newsletter, get to the Florida Citrus Resources Site at http://flcitrus.ifas.ufl.edu/

International Conference on Huanglongbing

Hosted by Florida Citrus Mutual

December 1- 5, 2008

For additional information on the Conference or to register, go to
http://www.flcitrusmutual.com/greening-info/hlb_conference.aspx

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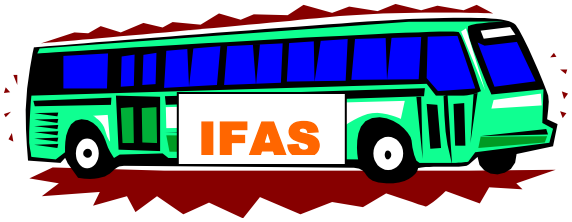

Saturday, 6 December 2008
For more information or to sign up, call 863 674 4092

THE INDIAN RIVER CITRUS SEMINAR

January 28-29, 2009
St. Lucie County Fairgrounds, Ft. Pierce, FL
Registration form is enclosed.
For more information and registration too, visit
http://floridagrower.net/flgevents/

INDIAN RIVER CITRUS SEMINAR

Special Thanks **to the following sponsors (on pages 2, 3, and 4) of the Flatwoods Citrus Newsletter for their generous contribution and support.** **If you would like to be among them, please contact me at 863 674 4092 or maz@ifas.ufl.edu**

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Application of handheld computers, GPS, and GIS software for controlling HLB and Canker

Date: November 18, 2008
Time: 8:00 AM – 1:00 PM

Location: Southwest Florida REC (Immokalee)
2686 SR 29 North
Immokalee, FL 34142-9515
(239)658-3400

Speakers: Dr. Reza Ehsani, Dr. Arnold Schumann, and Ms. Sherrie Buchanon

SCHEDULE

8:00 – 8:30 am	Registration & Coffee
8:30 – 9:00 am	Introduction and Update on HLB and Canker
9:00 – 9:30 am	Overview of the hardware GPS and handheld computers
9:30 – 10:00 am	Overview of the mapping and scouting software for Canker and HLB
10:00 – 10:45 am	Introduction to the Software:
10:45 – 11:30 am	**Group Rotation (hands –on Activity)** ► *Group 1 –* ► *Group 2 –* ► *Group 3 –*
11:30 – 12:15 pm	**Group Rotation (hands –on Activity)** ► *Group 1 –* ► *Group 2 –* ► *Group 3 –*
12:15 – 1:00 pm	**Group Rotation (hands –on Activity)** ► *Group 1 –* ► *Group 2 –* ► *Group 3 –*
1:00 – 2:00 pm	Lunch and Wrap up

From the Florida Agricultural Statistics Service

http://www.nass.usda.gov/Statistics_by_State/Florida/Publications/Citrus/cit/2008-09/cit1008.pdf

Florida Citrus Production (Million Boxes)

						Forecast?	
Cultivar	**2003-04**	**2004-05**	**2005-06**	**2006-07**	**2007-08**	**2008-09**	
Early/Mid orange	126.0	79.1	75.0	65.6	83.5	**88.0**	
Valencia orange	116.0	70.5	72.7	63.4	86.7	**78.0**	
All oranges	242.0	149.6	147.7	129.0	170.2	**166.0**	
All grapefruit	40.9	12.8	19.3	27.2	26.6	**23.0**	
Temples	1.40	0.65	0.70				
Tangelos	1.00	1.55	1.40	1.25	1.5	**1.5**	
All tangerines	6.5	4.45	5.5	4.6	5.5	**4.9**	
Total	**291.800**	**169.05**	**174.6**	**162.05**	**203.8**	**195.4**	

Production of Florida citrus in the 2007-08 season was 203.8 million boxes, up 26% from the previous season.

ALL ORANGES 166.0 MILLION BOXES

The 2008-09 Florida all orange forecast (including Temples) released today by the USDA Agricultural Statistics Board is 166.0 million boxes. This is 2.5 percent less than the 170.2 million boxes recorded as final production last season. It is 32 percent below the record high utilization of 244.0 million boxes (Temples not included) in the 1997-98 season. The forecast categories for all oranges include the later variety Valencia oranges at 78.0 million boxes and early-midseason-Navel portion (including Temples) at 88.0 million. The Navel oranges account for 3.3 million boxes of the early-midseason-Navel category.

TANGELOS 1.5 MILLION BOXES

The tangelo forecast of 1.5 million boxes is equal to last season's final production and 20 percent higher than the 2006-07 season. Bearing trees have been declining for over a decade and now are at 624,500. At 745 pieces, fruit per tree is down four percent from last season, but still well above recent historical averages.

ALL GRAPEFRUIT 23.0 MILLION BOXES

The forecast of grapefruit for certified utilization (including an allocation of 700,000 boxes of gift fruit and local sales) is 23.0 million boxes. If attained this will be 14 percent less than the 26.6 million boxes produced last season. The total is comprised of 7.0 million boxes of **white** grapefruit and 16.0 million boxes of **colored** varieties.

ALL TANGERINES 4.9 MILLION BOXES

The forecast of all tangerines is 4.9 million boxes, a decrease of 11 percent from last season, and 30 percent below the record 7.0 million box crop of 1999-00. The total is comprised of the **early** component (Fallglo and Sunburst varieties) at 2.9 million boxes and the **late** component (Honey variety) at 2.0 million boxes.

ESTIMATE LEAVES GROWERS FEELING SQUEEZED

Larger crop could mean lower returns for growers facing rising production costs

By **LAURA LAYDEN** (Contact)
Friday, October 10, 2008
NAPLES — Southwest Florida's growers got some sour news on Friday.

The U.S. Department of Agriculture's first citrus crop estimate for the 2008-09 season came out higher than many expected.

That could mean lower prices for growers this year, even as their costs continue to rise.

The U.S. Department of Agriculture has predicted that Florida will produce 166 million 90-pound boxes of oranges this year.

While that's down 2.5 percent from last year's total of 170.2 million, the government forecast is bigger than private estimates, which put the crop size at closer to 155 million boxes.

"Fruit prices are down and the cost of production is up. So it's definitely going to put the grower in the squeeze for this season," said Ron Hamel, executive vice president of the Gulf Citrus Growers Association, which represents the region's growers.

"It's going to be awful tight," he said.

With a large inventory of orange juice and a larger crop size, prices could continue their fall as supplies exceed demand. Most of Florida's oranges are sent to the processing plant for juice. Orange juice futures fell lower on Friday's forecast. They dropped below 80 cents a pound after the report was released.

"It needs to go up substantially higher for the grower to break even," said Mike Sparks, executive vice president and CEO of Florida Citrus Mutual.

To break even, growers need to get at least $1.20 per pound solid, he said. One pound of solids make about a gallon of juice.

Orange juice inventories are near a record high at 300 million gallons, Sparks said.

"There is so much inventory right now that we were all hoping for a smaller crop," said Paul Meador, a vice president for Everglades Harvesting & Hauling Inc. in LaBelle, which has thousands of acres of citrus in Collier, Hendry, Glades and Highlands counties.

Higher petroleum prices are driving up the cost of everything from the fertilizer growers put on their trees to the fuel they put in their tractors. At the same time, growers are spending more to fight crippling diseases such as canker and greening. Canker mars fruit, while greening kills trees. There's no known cure for either of the bacterial diseases, which continue to spread across the state.

The Florida Department of Citrus has budgeted $20 million this year for research on canker and greening. In a conference call Friday, Ken Keck, executive director, said the long-term health of citrus trees is a big concern and so are lower prices.

"There will be a period here where folks will have to hang on," he said.

Hamel said local growers heard no good news with the USDA forecast.

"I think they are extremely cautious going into this season as to what we are really going to see here," he said. "The crop estimate just kind of adds to the nervousness kind of coming in."

Southwest Florida is big in citrus. The five-county region has more than 20 percent of the total acreage in Florida. Florida's total citrus crop is expected to be 4 percent smaller than in 2007-08.

The USDA forecast includes 23 million boxes of grapefruit, down 14 percent from last season. Tangerines are pegged at 4.9 million boxes, down 11 percent from last season, and tangelos at 1.5 million boxes, the same as last year. The grapefruit crop would be one of the smallest growers have produced since the 1944-45 season.

There a number of reasons for the smaller citrus crop this year. A drought hurt the trees this spring and acreage is also down because so many trees have been lost to disease in the past year.

In the near-term, consumer prices for orange juice are expected to remain stable, Keck said. It will remain a "tremendous value," he said.

With a bad economy, the demand for orange juice has declined as consumers have tightened their wallets.

"There is not as much orange juice being purchased. To have a relatively larger crop is not something we were all looking forward to," Meador said.

The USDA will update its forecast monthly throughout the season.

"The only thing you know about an estimate is that it is always going to change," Sparks said.

Meador agrees.

"We could still have a hurricane this year," he said. "We could still have a freeze. There is a lot that can happen between now and the time the harvest is completed."

The next forecast is scheduled for Nov. 10.

Bronson Announces That 59 Counties Eligible For Disaster Assistance From Tropical Storm Fay

TALLAHASSEE – Florida Agriculture and Consumer Services Commissioner Charles H. Bronson announced today that agricultural producers in 59 of Florida's 67 counties are eligible for federal disaster assistance as a result of damage from Tropical Storm Fay in late August.

The U.S. Department of Agriculture has designated 36 counties impacted by the storm as primary disaster areas and 23 others as contiguous disaster areas, and counties in each category are eligible for disaster aid.

"We are very appreciative of the Bush Administration's decision to honor our request in having these counties declared disaster areas so that farmers and ranchers impacted by the storm can seek the disaster assistance that many of them need to rebuild their businesses," Bronson said.

On September 3, Bronson asked Governor Charlie Crist to seek federal disaster declarations for the impacted counties that were battered by high winds, excessive rainfall, flooding and tornadoes associated with Tropical Storm Fay as it roared through Florida between August 19 and August 24.

Agricultural producers in the 59 counties are eligible to be considered for Farm Service Agency (FSA) emergency loans, and the Supplemental Revenue Assistance Program (SURE), which was approved as part of the Food, Conservation and Energy Act of 2008.

FSA is currently developing regulations and software for the SURE program, so while FSA emergency loans are the only program available immediately, Bronson said he anticipates that additional resources will be available to those producers with losses as soon as the SURE program is implemented.

FSA will consider each application on its own merits, and local FSA offices can provide impacted farmers with further information.

Counties receiving the primary disaster declaration were: Alachua, Baker, Bay, Bradford, Brevard, Charlotte, Clay, Collier, Columbia, Dixie, Duval, Flagler, Gilchrist, Glades, Hamilton, Hendry, Highlands, Holmes, Indian River, Jefferson, Lee, Leon, Madison, Marion, Martin, Nassau, Okeechobee, Putnam, Seminole, St. Johns, St. Lucie, Suwannee, Union, Volusia, Wakulla and Washington.

Counties receiving the contiguous county disaster declaration were: Broward, Calhoun, Citrus, De Soto, Franklin, Gadsden, Gulf, Hardee, Jackson, Lafayette, Lake, Levy, Liberty, Miami-Dade, Monroe, Orange, Osceola, Palm Beach, Polk, Sarasota, Sumter, Taylor and Walton.

Get in touch with your local Farm Service Agency (FSA) at:
http://www.fsa.usda.gov/FSA/stateoffapp?mystate=fl&area=home&subject=landing&topic=landing

For Hendry, Glades, and Collier Counties

FSA SERVICE CENTER OFFICE
HENDRY COUNTY FARM SERVICE AGENCY
622 W SUGARLAND HWY
CLEWISTON, FL 33440-3022
(863) 983-7250
(863) 983-8709 Fax

For Lee and Charlotte Counties

FSA SERVICE CENTER OFFICE
LEE COUNTY FARM SERVICE AGENCY
3434 HANCOCK BRIDGE PKWY
FT MYERS, FL 33903-7094
(239) 997-7331 ext 2
(239) 997-7557 Fax

Increasing Efficiency and Reducing Cost of Nutritional Programs

Economics, nutrition, and Florida soils

- To maintain a viable citrus industry, it is necessary to produce large, high quality crops of fruit economically.
- Good production of high quality fruit will not be possible if there is a lack of understanding of soils and nutrient requirement of the grown trees.
- Most Florida citrus is grown on soils with inherently low fertility and low CEC and thus unable to retain enough amount of soluble plant nutrient against the leaching action of rainfall and irrigation.

Importance of N & K

- N & K are the most important nutrients for Florida soils and citrus.
- An adequate level of N is required for vegetative growth, flowering, and fruit yield.
- K also plays an important role in determining yield, fruit size, and quality.
- Fertilizer ratios of N to K_2O are usually 1:1. However, a ratio of 1:1.25 is recommended for high pH or calcareous soils.

Management practices to improve fertilizer efficiency

They include:

♦ Evaluation of leaf analysis data

♦ Adjustment of N rates to the level based on expected production and IFAS recommendations

♦ Selection of fertilizer formulation to match existing conditions

♦ Careful placement of fertilizer within the root zone

♦ Timing to avoid the rainy season

♦ Split application

♦ Irrigation management to maximize production and minimize leaching

Tissue and soil analysis

- Leaf sampling and analysis is a useful management tool for fertilizer decisions.
- The best indication of successful fertilizer management practices for citrus trees is having leaf nutritional standards within the optimum ranges.
- Trends in leaf N and K over several years provide the best criteria for adjusting rates within the recommended ranges.
- Soil analysis is useful for determining the pH and concentrations of P, Ca, and Mg.

N requirements for mature trees

- In a mature grove where there is little net increase in tree size, N used for leaf growth is largely recycled as leaves drop, decompose, and mineralize. Replacement of the N removed by fruit harvest becomes the main requirement, and nutrient requirements should vary as the crop load changes.

Fertilizer Sources

- Inorganic and synthetic organic nitrogen fertilizers are high-analysis materials and are generally most economical to use in citrus groves. They are rapidly available, unless they have been formulated in a controlled-release form.
- The use of high analysis fertilizers eliminates much of the filler. A great deal of the mixing, transportation, and application cost is reduced.
- The use of controlled-release fertilizers for resets in established groves is a feasible option.

Timing and frequency of application

- 2/3 of the tree's nutritional requirements should be made available between January and early June, with most of it in place during flowering and fruit-setting period. The remaining 1/3 can be applied in September or October.
- Split fertilizer application or fertigation combined with sound irrigation management increase fertilizer efficiency by maintaining a more constant supply of nutrients and by reducing leaching if unexpected rain occurs. Less fertilizer will be required.
- Less fertilizer may also be required if fertilizer is confined to the root zone and if timing is adjusted to avoid rainy periods.

Foliar feeding

- Foliar feeding is useful under calcareous soil or any other condition that decreases the tree's ability to take up nutrients when there is a demand.
- Foliar applications of low-biuret urea (25-28 lbs N/acre) or phosphorous acid (2.6 quarts/acre of 26-28% P_2O_5) in late Dec.-early Jan. are known to increase flowering, fruit set, and fruit yield.
- Postbloom foliar applications of potassium nitrate or mono-potassium phosphate (8 lbs/acre K_2O) in late April have been found to increase fruit size and yield.

Phosphorus

- P applied to established groves had not leached but had accumulated in the soil at high levels and is available slowly so that P application may be reduced or omitted in established groves.
- P does not leach readily where the soil pH is 6 or higher and the fruit crop removes very little.
- Therefore, regular P applications are not necessary.
- However, some soils used for new citrus plantings may have low native P and P fertilizers should be applied for several years.

Micronutrients

- The use of most micronutrients is recommended only when deficiency symptoms persist.
- Copper should not be included in fertilizers if Cu sprays are used and if the grove soil test show adequate Cu (5-10 lbs/acre).
- Molybdenum (Mo) deficiency occurs on soils that have been allowed to become very acid. Liming those soils should fix the problem.
- Foliar spray applications of micronutrients (Mn, Zn, Cu, B, and Mo) are more effective and economically practical than soil applications when included with postbloom or summer foliar sprays after full expansion of the new flush.

Soil pH & liming

- Soils should have a pH ranging from 5.5 to 6.5 with the higher values used for soils containing high Cu levels.
- Under normal conditions, a clear advantage of pH 6 over pH 5 has been demonstrated in several studies. A pH of 7 was no better than a pH of 6.
- Soil pH can be increased by application of either calcite or dolomite. Dolomite supplies both Ca and Mg. Therefore, the choice of dolomite would be more appropriate to supply Mg and have a good balance between Ca and Mg.

Overliming

- Liming soils having a pH at or above 6 will be costly and not useful. In groves, where soils have adequate pH but low Ca levels, gypsum ($CaSO_4$) can be used as a source of Ca without affecting the soil pH.
- Applying dolomite as a source of Mg is not recommended if the soil pH is in the desired range. Under these conditions, soil application of either $MgSO_4$ or MgO and foliar application of $Mg(NO_3)_2$ are effective for correcting Mg deficiency.

Nutritional balance

- Correct ratios of nutrients are critical to fertilizer management and sustainability.
- If an element is below the critical level, yield production will fall even though the other elements are kept in good supply.
- Too much N with too little K can reduce fruiting and result in lost crop yield and quality.
- High K with low N and P supply will induce luxury consumption of K, delay fruit development and reduce juice content.

BIOSOLIDS

Biosolids are nutrient-rich organic materials. Although classified as a waste material, biosolids can be beneficial to agriculture because they contain many essential plant nutrients and organic matter. Following proper treatment and processing, biosolids can be recycled as fertilizers or soil amendments to improve soil chemical and physical properties with negligible negative impacts.

Application of organic wastes like biosolids to agricultural land provides several benefits, including: 1) Reduction of the chemical fertilizer requirement, since biosolids are sources of many plant nutrients; 2) Improvement of soil chemical properties by increasing the nutrient pool, promoting an increase in pH of acid soils, and increasing soil buffering capacity; 3) Improvement of soil physical properties, such as structure and particle aggregation, aeration and drainage, and water retention; 4) Enhancement of biological properties by increasing microbial communities and soil fauna and contributing to disease suppression.

Biosolids are generated when solids, accumulated during domestic sewage processing, undergo pathogen control treatment that meets federal and state sewage sludge regulatory requirements before being applied to the soil. The biosolids of today are cleaner and of better quality than those that were produced one to two decades ago.

Agricultural uses of biosolids that meet strict quality criteria have been shown to produce improvements in crop growth and yield when applied at recommended rates. Nutrients found in biosolids, including nitrogen, phosphorus, sulfur, calcium, magnesium and micronutrients, are necessary for crop growth and production. Most biosolids contain micronutrients in a natural organically-chelated form. Crops use nutrients from biosolids efficiently because they are released slowly as the biosolids break down. Biosolids application does not necessarily replace inorganic fertilization. Organic wastes lack the proper balance of nutrients necessary to fully meet crop requirements. They can, however, be used in conjunction with fertilizers to reduce chemical fertilizer inputs. At high rates, the organic matter in biosolids can improve water and nutrient holding capacities of the soil.

Decades of worldwide research have demonstrated that biosolids can be safely used in agriculture. Biosolids are land-applied across most of the state of Florida without restriction beyond the basic federal and state guidelines. However, since biosolids contain considerable amounts of phosphorus, application has recently been limited or banned outright in phosphorus-sensitive regions (e.g. the area adjacent to Lake Okeechobee) due to water quality concerns.

Economic values of biosolids are determined by the marketplace of goods and services for which people are willing and able to pay. Grower should be willing to pay for biosolids only if the product increases overall net returns. An increase in net returns can be achieved by reducing production costs and/or increasing crop yield or quality. Growers and farmers purchase fertilizers and liming materials, and the extent to which biosolids provide plant nutrients and/or liming capacity provides a basis for valuing biosolids.

This is a summary of three publications written by Obreza, Muchovej, and Roka.

Citrus canker is still a major problem in Florida

Outbreaks of citrus canker occur when new shoots are emerging or when fruit are in the early stages of development. Frequent rainfall in warm weather, especially during storms, contributes to disease development. Citrus canker is mostly a leaf-spotting and fruit rind-blemishing disease.

Biology. Wind-driven rain is the main dispersal agent, and wind speeds >18 mph aid in the penetration of bacteria through the stomatal pores or wounds made by thorns, insects, and blowing sand. Leaves, stems, and fruit become resistant to infection as they mature. Almost all infections occur on leaves and stems within the first 6 weeks after initiation of growth.

Canker is more severe on the side of the tree exposed to wind-driven rain. Spread over longer distances can occur during severe tropical storms, hurricanes, and tornadoes. Workers can carry bacteria from one location to another on hands, clothes, and equipment. Grove equipment spreads the bacteria within and among plantings, especially when trees are wet.

Protecting Canker-Free Areas

Decontamination. Rules for decontamination are still in place and should be followed. Decontamination is especially important in harvesting operations, hedging and topping, and in any other practices involving extensive contact with foliage.

Tree removal. If canker is detected in areas previously free of the disease, removal and burning of trees on site may slow the establishment of the disease. For tree removal to be effective, canker has to be localized and limited to a small number of trees. Tree removal must be followed by monthly inspections and removal of any more trees found positive for the disease. At some point, tree removal will no longer be economically sustainable and should be discontinued.

Defoliation and Pruning. There are currently no registered defoliants, but it is possible to defoliate trees using high concentrations of legal copper or fertilizer products. However, no rates or spray volumes have been established for this practice. The results of chemical defoliation are highly variable depending on chemical rate, spray application method, tree age, water relations and environmental conditions at time of application. The results for the same rate and application method can vary from incomplete defoliation to severe dieback of brown wood. Defoliation may be useful in areas surrounding foci of infected trees that have been removed. Following defoliation or pruning, the new growth

flush should be treated with copper products once the growth is half expanded to protect it from new infections.

Endemic Canker. Where canker is already endemic, the primary means of control are: 1) planting of windbreaks, 2) protection of fruit and leaves with copper sprays, and 3) control of leafminer.

Windbreaks. Windbreaks are highly effective in reducing the spread of canker, but more importantly, they reduce the severity of the infection in endemic situations. The vast majority of the infection occurs by wind-blown rains. Winds of 18 to 20 mph are needed to actually force bacteria into the stomates on leaves and fruit.

Windbreaks are the single most effective means of dealing with canker. Windbreaks reduce wind speed for a distance ten times the height of the windbreak. That is, a 30-ft tall windbreak will exert an effect for about 300 ft. For more information on windbreaks, go to http://www.lal.ufl.edu/extension/windbreaks/index.htm

Copper sprays. No material has proven more effective than copper products.

Copper products are quite effective in preventing infection of fruit, but much less effective for reducing leaf infection. Also, copper has limited value in reducing spread of the disease. Application of copper to young leaves protects against infection, but protection is soon lost due to rapid expansion of the surface area. Fruit grows more slowly and is easier to protect. As little as 0.5 to 1.0 lb of metallic copper will protect spring flush growth or fruit during the dry spring season. However, in the rainy season, more than 1 lb of metallic copper may be required to protect fruit for 3-week periods.

To the extent possible, copper usage should be minimized since this metal accumulates in soil and may cause phytotoxicity to the fruit peel, or create environmental concerns.

Leafminer control. Leafminers do not spread canker, but extensive invasion of leafminer tunnels by the bacterium greatly increases inoculum levels making the disease difficult to control. Leafminers are not usually a problem on the spring flush and no control is needed at that time. Leafminer control on the first summer flush can reduce disease pressure considerably. If properly timed, applications of petroleum oil, Agri-mek, Micromite, Spintor, or Assail will reduce damage by leafminer. Late summer flushes tend to be erratic and effective control at that time will probably be difficult. For more information on leafminer management go to: http://edis.ifas.ufl.edu/document_in686

This is a summary of a publication written by J.H. Graham, L.W. Timmer, K.R. Chung and T.S. Schubert

GROWERS, PACKERS, PROCESSORS, BUYERS, MARKETERS ARE NEEDED TO CUT-PEEL-EAT-DRINK JUICE AND EVALUATE NEW CITRUS VARIETIES

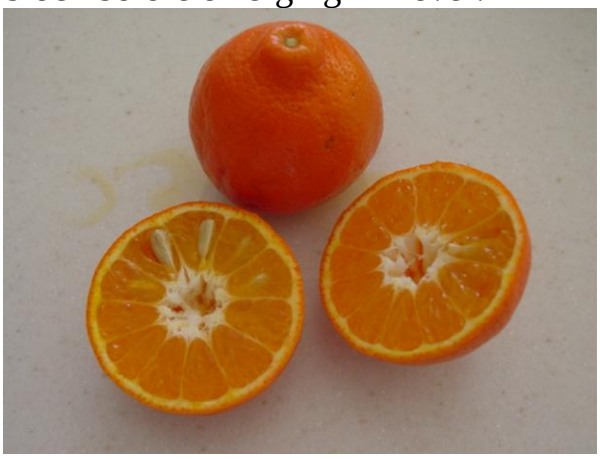
As you may or may not be aware, the New Varieties' Development & Management Corp. (NVDMC) – works closely with the IFAS Plant Improvement Team to coordinate Variety Display and Evaluation Days. Most of these occur at the CREC in Lake Alfred. This year, we will have one in the Indian River area to coincide with the Indian River Citrus Seminar.

At each of these events, the breeders put out fruit displays on tables – and I am asked to bring in growers, packers, processors, marketers – to cut-peel-eat-drink from each of the varieties. The one requirement is that we want all attendees to sample and comment on everything. We have an evaluation sheet (although we are in no way happy with it) that is to be completed by all participants.

This is a very successful way of integrating industry expertise, with the research community. We have already run into situations where the scientists were excited by things, that industry didn't want; and we have also had varieties that the scientists were going to discard, that industry had a use for. This is a very helpful tool.

My goal is to have 20 people attend each fruit evaluation day. The problem is that I only have about 20 people who have volunteered to be on my list. As everyone won't be able to make all of the events, I really need a pool of about 100, so that I can have 20 show up. We are reaching out to growers, packers, processors, buyers, and marketers willing to dedicate time to this effort.

Generally – these are held at 10AM. They have to invest the drive time, plus about an hour to an hour and a half. So far, this effort has moved 11 varieties into early evaluation, that would have otherwise been years in the research block before emerging – if ever.



Anyone interested, please send an e-mail to **J. Peter Chaires (Email: pchaires@flcitruspackers.org)**

I do all of my invitations by email. Each time, I cap the group at about 24, hoping that 20 will actually show. So, I require them to RSVP for each date. When I know ahead of time – the type of varieties that will be shown – I will indicate so in the invitation. Sometimes, it's pot-luck. My contact information is shown below.

Thanks for any help that you can provide. This is a great way for industry to participate in something positive, in the midst of all of our challenges.

Here are the dates:

Nov 20 – CREC
Dec 16 – CREC
Jan 28 – Indian River Citrus Seminar
Feb 19th – CREC
March 26th - CREC

Please contact:

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Florida Citrus Industry Research Coordinating Council

Establishing research priorities for the citrus industry requires significant input from many individuals and organizations. The process is on going as the industry is a dynamic and ever changing combination of varied operations. Input is received from the Florida Citrus Packers Research Committee, Department of Citrus Harvesting Research Committee, Florida Citrus Processors Association Research Committee and the Florida Citrus Production Managers Association. Each of these organizations is the conduit for research needs to arrive at the council for consideration. The organizations submit a list of research needs to the council and give a presentation providing the rationale for the various items. The council has an opportunity to ask questions and obtain clarification in order to gain a clear understanding of each priority item. Each council member has several weeks to review the list of priorities and gather input if necessary.

For 2008 there are nineteen (19) priority items and each council member scored them in order of importance. From this individual ranking a Florida Citrus Industry Research Coordinating Council ranked list of industry priorities is obtained and provided below. The council then determined how to segregate the list into categories. For 2008 the FCIRCC decided to have three categories as shown below.

Those items which the council feels are required for the survival of the industry are identified as CRITICAL. These items need immediate attention and adequate funding to assure that research work is unencumbered. The next level of research needs is identified as ESSENTIAL. These priority items most likely are being addressed by research and should continue to receive concerted effort. The remaining research priorities are identified as IMPORTANT.

In no way are these priorities to be ignored, for they may be vital to one or more of the various industry segments. The council recognizes that each component of the citrus industry has unique and significant issues. Furthermore the council realizes that each segment of the industry must work hard to see that those research needs necessary to them are addressed. The process followed in identifying industry wide research priorities in no way discredits the needs of any segment of the industry. However, those items identified as critical or essential are the priorities the council recommends the industry apply maximum attention to assure that adequate research resources are available to bring about a solution.

The council strongly supports providing industry funding for not only the CRITICAL items, but the ESSENTIAL and IMPORTANT priorities as well. The level of financial support for the ESSENTIAL and IMPORTANT priorities may be significantly less than for greening, and in fact some priorities may not receive financial support from the industry. The council feels it is important to provide dollars for ESSENTIAL and even some IMPORTANT priorities.

Priorities for 2008

Issue Rank Status

Critical:

1. Greening
2. Canker
3. Genomics

Essential

1. Abscission
2. Plant Improvement
3. Mechanical Harvesting
4. Pest Management
5. Health Benefits
6. High Value By Products
7. Grove Production System
8. Fertilization/Irrigation

UF officials dedicate ethanol plant

By Nathan Crabbe
Sun staff write
Published: Friday, October 10, 2008

An ethanol plant at the University of Florida could help the nation kick its oil habit, as well as help the U.S. move away from using corn to make the alternative fuel.

DOUG FINGER/The Gainesville Sun
University of Florida President Bernie Machen attends the dedication of a new biofuel plant in Frazier Rogers Hall on the UF campus on Friday. At back is Congressman Cliff Stearns.

UF officials this week dedicated the pilot plant, which will research using genetically modified E. coli bacteria to convert plant waste into ethanol.

UF microbiologist Lonnie Ingram, who developed the method, said Florida's climate makes it well-suited to grow plants for fuel production.

"We have the potential to lead the country in the production of biofuels," said Ingram, director of the Florida Center for Renewable Chemicals and Fuels.

Funded as part of a $4.5 million state grant, the plant is nestled in a new addition to an agricultural and biological engineering building on the main campus. The plant will be used for research and to train graduate students.

"This plant is not a silver bullet ... but it's quite likely to make a significant contribution to the transition away from oil," said UF President Bernie Machen.

Florida currently imports all the oil that it uses.

Machen said recent gas shortages in Atlanta and beyond showed the need to develop local sources of fuel.

"Just like hurricanes, Florida dodged this shortage this year, but we are bound to have it hit us sometime in the future," he said.

The research could be applied in an ethanol plant that UF is building near Lake Okeechobee. The university is working with sugar producer Florida Crystals on the $20 million project, which will initially produce ethanol from the crushed sugar cane stalks left after juice is extracted.

Currently, the U.S. uses corn to produce nearly all the ethanol used as an additive to gasoline. But the practice requires a large amount of energy and can mean increases in food costs.

Ingram said producing fuel from wood has advantages in those areas, but is more difficult to do. The plant will help refine the method and reduce its cost, he said.

Machen said the plant will make Ingram's process better-suited for industrial-scale production.

"Although it's come a long way, it's still not quite ready for prime time," Machen said. "And that's what this plant is all about."

The pilot project is expected to eventually expand to research other fuels such as hydrogen, biogas and biodiesel.

The U.S. is entering into an "energy age" when the development of alternative fuels will drive the economy, said Jimmy Cheek, a senior vice president who heads the university's Institute of Food and Agricultural Sciences.

"Like the information age, we will see an explosion of creativity, innovation and technological advances," Cheek said.

Machen said the move to biofuels will also ease the U.S. dependence on foreign oil.

"Every drop that we produce is a drop that we're not going to be importing," Machen said.

Nathan Crabbe can be reached at 338-3176 or nathan.crabbe@gvillesun.com.

2 Florida professors, sugar producer team up on ethanol plant

Sugar giant Florida Crystals and two Florida professors are teaming up to build the state's first cellulosic ethanol plant in western Palm Beach County.

BY OSCAR CORRAL
dadenews@MiamiHerald.com

Scientists at the University of Florida and Florida International University are moving ahead with plans to build the state's first cellulosic ethanol plant on land belonging to sugar giant Florida Crystals.

It would be the state's most ambitious biofuels project using technology that has only been used on a couple of small pilot projects around the country. If successful, it could help unleash a powerful new energy production tool, and pave the way for Florida's sugar growers to become an energy powerhouse.

The technology was developed by Florida scientists who vow to lay the seeds for the fuel of the future.

The low-tech inspirations for the breakthrough: E. coli and tequila. Scientists are billing it "next generation ethanol" or ``ethanol 2.0."

Unlike the controversial ethanol produced from corn in the Midwest -- a move that has sent food prices soaring globally -- the Florida plant will not use food products. That's because cellulosic ethanol is made from the inedible portions of plants: the stems, leaves, husks, hulls.

"There is no food versus fuel controversy," said Florida International University chemical engineering Professor George Philippidis, associate director of the school's Applied Research Center. ``That's the beauty of this second-generation ethanol technology. Unlike corn, we are looking for sustainable ways to make ethanol in the long run."

Some scientists believe the overall impact of cellulosic ethanol production on the U.S. economy will be positive because it could help jump-start moribund farms, reduce the demand on foreign oil and create jobs.

Bruce Dale, a professor of Chemical Engineering at Michigan State University, published a report last year that concluded ``the entire U.S. economy will benefit from a strengthened fuels and chemicals sector."

CRITICISM

But cellulosic ethanol is not without its critics and skeptics.

Cornell University Ecologist David Pimentel says cellulosic ethanol is not commercially viable because it requires too much energy and biomass to produce every gallon. For example, he said, a cellulosic ethanol plant would require three to five times more cellulosic biomass to get the same quantities of sugars and starches that corn has.

"To get starches and sugar out of cellulosic material you have to use a strong acid or an expensive enzyme, then you have to stop the acidity using an alkaline," Pimentel said. ``That's why there isn't a single ethanol plant in the world that is using cellulosic biomass to produce ethanol. It's because of economics and energy."

Pimentel said he supports the idea of building a research and development plant to try to solve some of those questions. However, even if efficiency is significantly increased, Pimentel said cellulosic ethanol will probably never be able to provide more than five to seven percent of the country's liquid fuel needs.

"Remember, there isn't as much biomass out there as one would like to think," Pimentel said. ``Ethanol alone will not solve this country's energy problems."

Still, the Florida scientists who are working on the project say that it's a step in the right direction to produce sustainable fuels that have much cleaner emissions than fossil fuels.

"We began our research after several oil crises and standing in line for gasoline," said University of Florida Microbiology Professor Lonnie Ingram, who has patented several processes to turn cellulosic matter into ethanol.

The way it would work is that biomass would be piled up next to the plant, and processed through a chemical factory to create ethanol. Supporters say it's crucial to have the raw materials close by to reduce transportation costs.

PRINCIPAL PRODUCT. Bagasse, the mulch-like refuse that remains after sugar cane is squeezed, will be the principal product used to make the cellulosic ethanol, along with yard waste brought in from South Florida. Florida Crystals will also provide the land, utility services and maintenance.

The sugar producer is no stranger to the energy market. For years, Florida Crystals has been producing its own electricity by burning bagasse, and selling the excess electricity it produces back to Florida Power & Light.

The state of Florida provided Ingram with a $20 million grant to build the plant. Philippidis received another $2 million grant to study the pre-treatment phase, which has proven to be the trickiest in terms of making cellulosic ethanol commercially viable.

Florida Crystals views cellulosic ethanol as a business with potentially big profits in an era of high gas prices.

"Liquid fuels are something Florida Crystals wants to get into," said Steve Clark, Florida Crystals' director of Industrial Research and Development. ``The long-term goal . . . is to be more than a sugar company; it's to be in the forefront of energy development, both power and liquid fuels."

Citrus Economics

http://www.crec.ifas.ufl.edu/extension/economics/

Summary of 2007-2008 Citrus Budget for the Southwest Florida Production Region

Ronald P. Muraro, Extension Economist
University of Florida, IFAS, CREC, Lake Alfred, FL

Citrus budgets are tabulated annually for the Central, Southwest and Indian River citrus production regions of Florida. The attached budget costs are for the Southwest Florida citrus production region. These costs may not represent your particular grove situation. However, they represent the most current comparative cost estimates for Florida citrus. The budget costs items for the **Southwest Florida** are more representative of an **owner-managed operation; not a custom-managed operation.** Budget analysis provides the basis for many grower decisions. Budgets can be used to calculate potential profits, determine cash requirements and determine break-even prices. The budget costs presented will serve as a format for growers to analyze their own individual records. The cost data was developed by surveying custom operators, suppliers, growers, colleagues with UF/IFAS and County Extension Agents in each production region.

From 2006-2007 and 2007-2008 seasons, average cultural production costs increased 21% for processed oranges and 14% for fresh market grapefruit. The high cost of fuel and energy increased equipment application costs 11% over the 2006-2007 season. Overall increase in chemical prices averaged 8%. However, fertilizer prices had the greatest impact on costs in 2007-2008 increasing an average of 80% over 2006-2007. High demand for plant nutrients throughout the developing world, especially Brazil, China and India, along with the increases in transportation costs, were the causes for the increase in fertilizer costs. The 2007-2008 summary comparative budget summary for a processed orange cultural program is shown in Table 1 and for a fresh market cultural program is shown in Table 2. Two scenarios are presented for each budget: 1) Typical/Historic Cultural Program **Without Citrus Canker and Greening** and 2) Cultural Program **With Citrus Canker and Greening.** Scenario one represents costs of typical grove practices which have been historically performed for citrus grown in Southwest Florida, but does not include citrus canker and greening management control programs. Scenario two is the same cultural program for scenario one but expanded to include the additional costs for managing citrus canker and greening. Each budget scenario shows a Total Per Acre **Without** and **With resetting-tree replacement**.

With the introduction of citrus greening in 2005, Florida citrus growers have had to develop new management strategies to identify and remove infected trees along with adding new spray programs to control the insect vector, the Asian citrus psyllid. Likewise, with the end of the citrus canker eradication program in 2006, to reduce the impact of canker infestations on new tree flushes and reduce fruit drop, copper spray material is being added with each spray tank mix.

For fruit grown for the fresh fruit market, additional costs are incurred by growers to assure that the blocks and fruit can be certified "canker free" for shipments to the U.S. domestic and European markets. The estimated additional costs required to manage citrus greening and canker and were based on the cultural programs being implemented in UF/IFAS CREC research groves and information from citrus growers. These costs were incorporated into Tables 1, 2, 3, 4, 5 and 6. The budgets shown in Table 1 lists the costs of individual grove care practices normally performed in a citrus grove. These costs reflect current grove practices being performed by growers. The estimated costs are for a mature grove (10+ years old); the grove care costs for a specific grove site may differ depending upon the tree age; tree density and the actual grove practices performed. For example, tree losses due to blight, tristeza or citrus greening could double, if not 2 increase more, the tree replacement costs. Travel and set-up costs may vary due to the size of a citrus grove and the distance from the grove equipment barn. Citrus canker and greening control costs will also vary between individual blocks due to variety and fresh or processed market destination. The comparative budget costs are shown as an expanded **"delivered-in"** format in Tables 3 and 5 and are presented **with** and **without** the additional citrus greening cultural management cost as well as no resetting and resetting. The delivered in costs include cultural/production, management, regulatory and harvesting costs. For processed juice cultural program, the costs are presented in per acre, per box and per pound solids cost units. For the fresh fruit cultural program, the costs are presented in per acre, per box and per packed carton cost units. The per acre yields used in Tables 3 and 5 represent above average production for Hamlin oranges and grapefruit in the Southwest Florida production region. The decreased yield per acre for the "with greening" expanded budget reflects an additional 2.3% average annual tree loss for all age trees. Tables 4 and 6 show the delivered-in costs with resetting.

Without the additional cultural management costs for citrus canker and greening and **no resetting**, the delivered-in breakeven price ranged from $1.319 to $0.883 per pound solids; with resetting the breakeven price ranged from $1.403 to $0.925 per pound solids. With the additional citrus greening costs and no resetting, the delivered-in breakeven prices ranged from $1.517 to $0.982 per pound solids; **with resetting** the breakeven price ranged from $1.658 to $1.052 per pound solids.

Breakeven prices for fresh market grapefruit are shown in Table 8 for yields ranging from 350 to 650 boxes per acre. **Without** the additional cultural management costs for citrus canker and greening and **no resetting**, the delivered-in breakeven price ranged from $7.81 to $5.53 per box; with resetting the breakeven price ranged from $7.98 to $5.62 per box. **With** the additional citrus canker and greening costs and no resetting, the delivered -in breakeven price ranged from $9.38 to $6.37 per box; **with resetting** these breakeven price ranged from $9.82 to $6.61 per box. Also, in Table 9, the total estimated F.O.B. cost for fresh packed grapefruit is shown. The F.O.B. costs are presented for "fresh fruit packout percentage rates" ranging from 25% to 100%. Additional information on budgeting and cost analysis can be obtained by contacting the author, your County Extension Citrus Agent, or going to Lake Alfred UF/IFAS CREC **Extension-Economics** website: **http://www.crec.ifas.ufl.edu/Extension/Economics**

Flatwoods Citrus

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Please send: Dr. Mongi Zekri
Multi-County Citrus Agent
Hendry County Extension Office
P.O. Box 68
LaBelle, FL 33975

Subscriber's Name:_____

Company:_____

Address:_____

City:_____State:_____Zip:_____

Phone:_____

Fax:_____

E-mail:_____

Racial-Ethnic Background

__American Indian or native Alaskan
__Asian American
__Hispanic
__White, non-Hispanic
__Black, non-Hispanic

Gender

__Female __Male