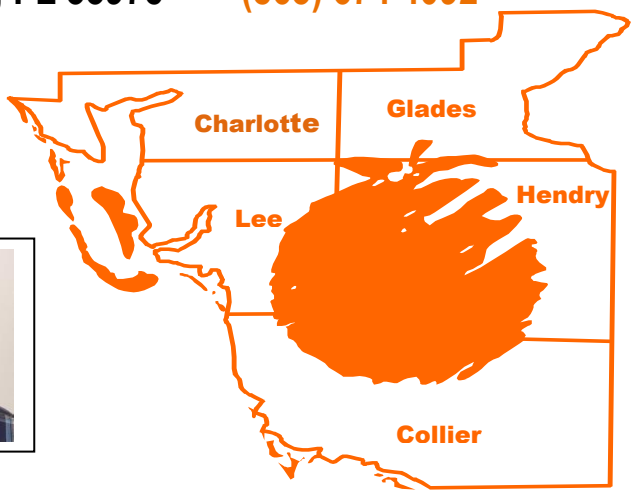
UF UNIVERSITY of FLORIDA
IFAS Extension

EXTENSION

Institute of Food and Agricultural Sciences

Hendry County Extension, P.O. Box 68, LaBelle, FL 33975 (863) 674 4092

Flatwoods Citrus



Vol. 12, No. 10 October 2009

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

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

Seminars in SW Florida

► Low volume application technology for citrus pests

Location: **Immokalee IFAS Center**
Date: Tuesday, October 6, 2009
Time: **8:30 AM** – 12:00 Noon
2 CEUs for Pesticide License Renewal
2 CEUs for Certified Crop Advisors
Attendance & Lunch are free, but
RSVP is required for planning purposes.
To RSVP, call 863 674 4092 or send
an e-mail to maz@ifas.ufl.edu

Certified Crop Adviser Educational Seminar and CEU Session

October 14, 2009, 7:30 AM to 5:30 PM (See enclosed registration and details)

► Mechanical Harvesting

Location: **Immokalee IFAS Center**
Date: Tuesday, December 8, 2009, Time: 10:00 AM – 12:00 Noon
2 CEUs for Pesticide License Renewal, 2 CEUs for Certified Crop Advisors

Nominations sought for Florida Citrus Hall of Fame

The names of pioneers, harvesters, packers, processors, marketers, scientists and educators who made significant contributions to their profession are being accepted for the Florida Citrus Hall of Fame.
This year's inductees were George Austin of Alva, Jerry Chicone of Orlando, Ben Hill Griffin III of Frostproof and D. Victor Knight Sr. of Vero Beach.
Dec. 1 is the deadline for entries. Nomination forms are available at Florida Citrus Mutual, (863) 682-1111 or at www.floridacitrushalloffame.com.
Completed applications may be e-mailed to: jackson71344@yahoo.com or jewell@flcitrusmutual.com. Hard copies should be sent to Florida Citrus Hall of Fame, PO Box 89, Lakeland, FL 33802.

Special Thanks to the following sponsors (on pages on pages 3, 4, and 5) 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

Susan S. Thayer

Maxijet®
"The Standard of Quality in Low-Volume Irrigation"

8400 Lake Trask Rd.
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Phone: 800 881 6994

Steve Fletcher

Fletcher Flying Service, Inc.
Phone: 239 860 2028
Fax: 863 675 3725

Heath Prescott

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Mobile: 863 781 9096
Nextel: 159*499803*6

Scott Houk

Dow AgroSciences
13543 Troia Drive
Estero, FL 33928
Phone: 239-243-6927
SEHouk@dow.com

FIRST BANK
P.O. Box 697
LaBelle, FL 33975
LaBelle Phone: 863 675 4242
Fax: 863 675 1099
Moore Haven: 863 946 1515

Ed Early

DuPont Ag. Products
5100 S. Cleveland Ave.,
Suite 318-368
Fort Myers, FL 33907
Phone: 239 994 8594

Cody Hoffman

SYNGENTA
841 NW Riverside Dr.
Port St. Lucie, FL 34983
cody.hoffman@syngenta.com

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AGLIME SALES, INC.
1375 Thornburg Road
Babson Park, FL 33827-9549
Mobile: 863 287 2925
Agnet # 52925

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Craig Noll
Office-239 549 2494
Mobile-239 691 8060
craig.noll@us.nufarm.com
Gary Simmons
Phone: 772 260 1058

Jay Hallaron
Chemtura Corporation
Phone: 407 256 4667
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Cell: 321 231 2277
jay.hallaron@chemtura.com

MONSANTO
Mike Prescott
Phone: 863 773 5103
Nextel Agnet: 886
Thad G. Boatwright
Phone: 561 478 4970
Nextel Agnet: 10556

FMC
FMC Corporation APG
Ronald Palumbo
Cell: 305 304-7491
Nextel Agnet: 14772
ronald.palumbo@fmc.com
fmccrop.com

Magna-Bon Agricultural Control Solutions
Canker Suppressant, Canker Wash Solutions, Line Cleaner
Nextel 158*17*10066
Phone: 800 845 1357
Susan Wright

FARM CREDIT SOUTHWEST FLORIDA
330 N. Brevard Ave.
Arcadia, FL 34266
Phone: 800 307 5677
Fax: 863 494 6460

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KILL ANTS. SAVE CASH!

Fire Ants are here and just in time for the fall season – you can receive a rebate on purchases of **Extinguish®** and/or **Extinguish® Plus**. This program **is valid from September 1, 2009 – November 30, 2009 offering you a $0.50 per pound rebate.**

Extinguish® is for your bearing groves. Extinguish® Professional Fire Ant Bait disrupts the normal growth and development of the fire ant colonies. When foraging worker ants take **Extinguish®** to the queens, their ability to reproduce stops. When existing worker ants begin to die naturally, there are no new workers to replace them. Thus, the colony collapses.

Use rate: 1–1.5 pounds per acre

Restricted Use Areas: None! **Extinguish®** can be applied wherever ants are found!

Extinguish® Plus is for your non-bearing groves. Extinguish® Plus Fire Ant Bait is a dual acting bait where it slowly kills the workers while sterilizing the queens. The two-way action of **Extinguish® Plus** assures complete control of fire ants.

Use rate: 1.5 pounds per acre

Restricted Use Areas: Bearing groves. Approved for non-bearing groves, pastures, turf, home, and more.

KILL FIRE ANTS & SAVE CASH REBATE FORM

Name: _____

Company: _____

Address: _____

City: _____ State: _____ ZIP: _____

Phone: (____) _____ Fax: (____) _____ E-mail: _____

Distributor Name: _____

Number of Acres Applied with Extinguish® _____ &/or Extinguish® Plus _____

Rebate Calculator: _____ X $0.50 = _____
Lbs. (minimum 100 lbs.) Grower Rebate

Mail completed form along with a copy of your invoice(s) to:
Extinguish® / Extinguish® Plus Rebate Offer
Central Life Sciences
Attn: Mark Taylor
1501 East Woodfield Rd., Suite 200 West
Schaumburg, IL 60173
300505160

All rebate requests must be postmarked by Dec. 31, 2009
Allow 6 – 8 weeks for processing
No resellers are eligible
Open to Florida citrus growers only

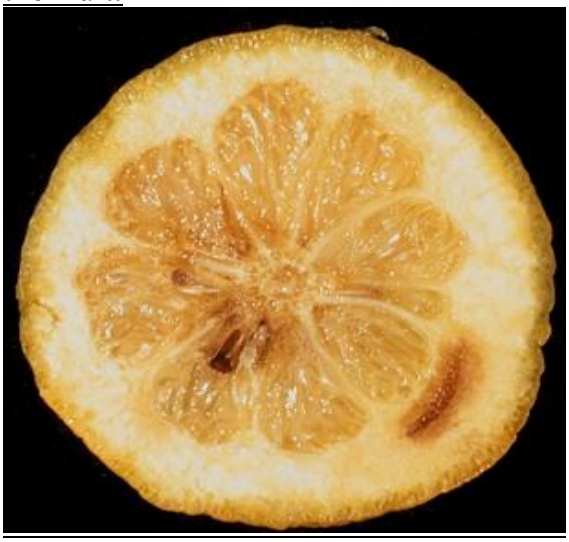
FALL NUTRITION OF CITRUS TREES

To increase fertilizer efficiency, soil and leaf analysis data should be studied and taken into consideration when generating a fertilizer program and selecting a fertilizer formulation. Dry fertilizer application should be split into 3 to 4 applications per year with a **complete balanced fertilizer**. Based on tree demands, 1/4 to 1/3 of the yearly fertilizer amount should be applied in the fall to satisfy vegetative growth demand. However, late fall fertilizer applications may delay fruit color development and fruit maturity for early season tangerine cultivars.

Boron (B)

Boron is particularly necessary where active cell division is taking place. Boron plays an important role in flowering, pollen-tube growth, fruiting processes, nitrogen (N) metabolism, and hormone activity. Florida sandy soils are low in B, and a deficiency of this element in citrus occasionally occurs under field conditions. The deficiency may be aggravated by severe drought conditions, heavy lime applications, or irrigation with alkaline water. Boron is very mobile in the soil profile of sandy soils and readily leaches by rainfall or excess irrigation.

Boron deficiency is known as "hard fruit" because the fruit is hard, low in juice content, and even dry due to lumps in the rind caused by gum impregnation. The chief fruit symptoms include premature shedding of young fruits. Such fruit have brownish discoloration in the white portion of the rind (albedo), described as gum pockets or impregnations of the tissue with gum and unusually thick albedo. Older fruit are undersized, lumpy, misshaped with an unusually thick albedo containing gum deposits. Affected fruit is low in sugar content. Seed fails to develop and gum deposits are common around the axis of the fruit.



The first visual symptoms of B deficiency are generally the death of the terminal growing point of the main stem. Further symptoms are a slight thickening of the leaves, a tendency for the leaves to curl downward at right angles to the midrib, and sometimes chlorosis. Young leaves show small water soaked spots or flecks becoming translucent as the leaves mature. Leaves of boron deficient citrus trees exhibit vein corking and enlargement.

Associated with this is a premature shedding of leaves starting in the tops of the trees and soon leaving the tops almost completely defoliated. Fruit symptoms

appear to be the most constant and reliable tool for diagnostic purposes.

To treat citrus affected with B deficiency, B compounds can be applied either foliarly or in the fertilizer. As a maintenance program, apply B in the fertilizer at an annual rate equivalent to 1/300 of the N rate. In Florida, foliar spray applications have been found much safer and more efficient than soil application. Soil applications frequently fail to give satisfactory results during dry falls and springs and may result in toxicity problems if made during the summer rainy season. Boron solubility in the soil is reduced at soil pHs below 5 and above 7. Foliar spray may be applied during the dormant period through post bloom, but preferably during early flower development. Treating at this growth stage is important because boron does not move very readily from other parts of the tree to the buds. Applying boron at this time will assist in flower initiation and pollen production, satisfy the needs for pollen tube growth, and enhance fruit set. For maintenance spray application, 0.25 lb/acre of B may be used. Boron levels in the leaf tissue should not drop below 40 ppm or exceed 120 ppm (dry wt basis). Where deficiency symptoms are present, double the amount suggested. Use care not to apply more than the recommended amount because it is easy to go from deficiency to excess.

MAGNESIUM NUTRITION

In Florida, magnesium (Mg) deficiency is commonly referred to as "bronzing". Trees with inadequate Mg supply may have no symptoms in the spring growth flush, but leaf symptoms will develop as the leaves age and the fruit expand and mature in the summer and fall. Magnesium deficiency symptoms occur on mature leaves following the removal of Mg to satisfy fruit requirements. During the summer, when a rapid increase in fruit size occurs, the symptoms appear on leaves close to the developing fruit. Magnesium deficiency symptoms appear as a result of translocation of Mg from the leaves to the developing fruit, although there may also be a translocation from older leaves to young developing leaves on the same shoot.

Disconnected yellow areas or irregular yellow blotches start near the base along the midribs of mature leaves that are close to fruit. They become gradually larger and eventually coalesce to form a large area of yellow tissue on each side of the midrib. This yellow area enlarges until only the tip and the base of the leaf are green, showing an inverted V-shaped area pointed on the midrib.

In acute deficiency, the yellow area may gradually enlarge until the entire leaf becomes yellow or bronze in color.

Leaves that have lost most of their green color due to Mg deficiency drop freely under unfavorable conditions. Defoliated twigs become weak and usually die by the following spring. Severe defoliation will reduce the average size of individual fruit and cause a general decline in fruit production. In Florida, Mg deficiency in citrus is caused primarily by low levels of Mg on acid light sandy soils and on calcareous soils. Leaching of added Mg is particularly serious and substantially rapid when the soil pH is 4.5 to 5.0. Under such conditions, the use of dolomite to bring the pH to 6.5 will furnish Mg at the same time.

FIXING Mg DEFICIENCY

Soil application of Mg sulfate or oxide to provide 50-60 lbs of Mg per acre can be successful in correcting Mg deficiency when the soil pH is adjusted. Under calcareous soils, the amounts of Mg applied must be greater than those applied on soils low in calcium or potassium. Foliar spray applications of Mg nitrate (3-5 gallons/acre) can be effective when applied on the spring and summer flush leaves when they are about fully expanded. Remember that Magnesium should be applied regularly at 1/5 (or 20%) of the N rate unless leaf analysis shows more than 0.50% Mg. If leaf Mg deficiency symptoms occur, Mg should be applied in the fertilizer, and the rate should be increased up to 30% of the N rate until symptoms are no longer present in mature leaves of subsequent flushes.

Fertilizer prices have risen steadily since 2005 but increased sharply to historical highs in 2008, up 64% from 2007. The sharp increase in 2008 was due mainly to continued strong world demand for fertilizer, coupled with significantly higher energy prices and limited fertilizer supplies. Strong world fertilizer demand was supported by favorable crop prices during the first part of 2008, which led to higher global production of grains and oilseeds. Fertilizer prices declined in early 2009. They are forecast to keep declining in 2009 as a result of falling commodity prices, restricted availability of credit, and substantial reduction in energy prices.

For more information on citrus nutrition, get to the following EDIS publications:

Increasing Efficiency and Reducing Costs of Citrus Nutritional Programs
Mongi Zekri, Thomas Obreza and Arnold Schumann
http://edis.ifas.ufl.edu/SS442 [pdf]

Irrigation, Nutrition, and Citrus Fruit Quality
Mongi Zekri, Thomas A. Obreza and Robert Koo
http://edis.ifas.ufl.edu/SS426 [pdf]

Micronutrient Deficiencies in Citrus: Iron, Zinc, and Manganese
Mongi Zekri and Thomas A. Obreza
http://edis.ifas.ufl.edu/SS423 [pdf]

Micronutrient Deficiencies in Citrus: Boron, Copper, and Molybdenum
Mongi Zekri and Thomas A. Obreza
http://edis.ifas.ufl.edu/SS422 [pdf]

Macronutrient Deficiencies in Citrus: Calcium, Magnesium, and Sulfur
Mongi Zekri and Thomas A. Obreza
http://edis.ifas.ufl.edu/SS421 [pdf]

Macronutrient Deficiencies in Citrus: Nitrogen, Phosphorus, and Potassium
Mongi Zekri and Thomas A. Obreza
http://edis.ifas.ufl.edu/SS420 [pdf]

Plant Nutrients for Citrus Trees
Mongi Zekri and Thomas A. Obreza
http://edis.ifas.ufl.edu/SS419 [pdf]

Nitrogen Fertilizer Sources: What Does The Future Hold for Citrus Producers?
Tom Obreza, Larry Parsons, and Kelly Morgan
http://edis.ifas.ufl.edu/SS457 [pdf]

Controlled-Release Fertilizers for Florida Citrus Production
Tom Obreza and Bob Rouse
http://edis.ifas.ufl.edu/SS433 [pdf]

Prioritizing Citrus Nutrient Management Decisions
Thomas A. Obreza
http://edis.ifas.ufl.edu/SS418 [pdf]

Managing Phosphorus Fertilization of Citrus using Soil Testing
Thomas A. Obreza
http://edis.ifas.ufl.edu/SS332 [pdf]

Effects of P and K Fertilization on Young Citrus Tree Growth
Thomas A. Obreza
http://edis.ifas.ufl.edu/SS331 [pdf]

Fertigation Nutrient Sources and Application Considerations for Citrus
Brian Boman and Tom Obreza
http://edis.ifas.ufl.edu/CH185 [pdf]

Citrus Fertilizer Management on Calcareous Soils
Thomas A. Obreza, Ashok K. Alva, and David V. Calvert
http://edis.ifas.ufl.edu/CH086 [pdf]

SOIL ACIDITY & LIMING

The optimum soil pH range for citrus trees is 6.0 to 7.0. Trifoliate hybrid rootstocks such as citrumelos and citranges do better at the low end of this pH range. For sandy soils, one ton of liming material such as dolomite will raise the soil pH by about one unit. Liming acidic soils is economically sound and essential for profitable crop production. Soil pH must be monitored every year through soil testing because development of soil acidity is a continuous process that requires repeated applications of liming materials. Always test your soil before liming. Do not assume that lime is needed.

Problems in very acid soils

*Aluminum (Al) toxicity to plant roots
*Copper toxicity in soils that have received repeated Cu fungicide applications
*Manganese toxicity to plants in continuously wet soils
*Calcium & magnesium deficiencies
*Molybdenum deficiency
*Phosphorus tied up by iron (Fe) & Al
*Poor bacterial growth
*Reduced conversion of ammonium to nitrate

Problems in alkaline (high pH) soils

*Iron deficiency
*Manganese deficiency
*Zinc deficiency
*Excess salts (in some soils)
*Phosphorus tied up by calcium (Ca) and magnesium (Mg)
*Bacterial diseases and disorders

Fertilizers. Both organic and non-organic fertilizers may eventually make the soil more acid. For example, transformations of ammonium- (NH_4^+) and urea-based fertilizers into nitrate (NO_3^-) release H^+ that increases soil acidity. Therefore, fertilization with materials containing ammonium or even adding large quantities of organic matter to a soil will ultimately increase the soil acidity and lower the pH.

Raising soil pH (liming acid soils). Soils are limed to reduce the harmful effects of low pH and to add calcium and magnesium to the soil. Lime reduces soil acidity (increases pH) by reducing the H^+ concentration through neutralization with carbonate (CO_3^{2-}) or hydroxide (OH^-). A Ca^{++} ion from the lime replaces two H^+ ions on the cation exchange complex. The hydrogen ions (H^+) are then reduced and changed into water (H_2O). An acid soil can become more acid as basic cations such as Ca^{2+}, Mg^{2+}, and K^+ are removed, usually by crop uptake or leaching, and replaced by H^+.

Benefits of liming to correct soil acidity

*Increased nutrient availability
*Improved fertilizer use efficiency
*Increased soil microbial activity
*Higher nitrogen fixation by legumes
*Reduced toxicity of copper
*Solving molybdenum deficiency
*Provision of additional amounts of calcium and magnesium

*Improved soil physical conditions
*Increased cation exchange capacity
*Improved herbicide activity
*Increased growth and crop yield

Lime placement. Since ground limestone is relatively insoluble in water, maximum contact with the soil is necessary to neutralize the soil acidity. Lime will not quickly move into the soil like water-soluble fertilizers. Even though it is usually recommended to thoroughly mix lime with the topsoil, it is not practical to incorporate it in a citrus grove. Therefore, it will take lime longer to raise soil pH in a grove compared with a field where it is incorporated. As soon as moisture is present, the lime will begin to react. Coarse lime particles react more slowly than very fine particles. Therefore, using very finely ground limestone is necessary to achieve the desired soil pH change within 4 to 6 months after application.

Overliming. While a correct liming program is beneficial for plant growth, excessive liming can be detrimental because deficiencies and imbalances of certain plant nutrients may result. The practice of estimating lime requirement without a soil test is risky because it can lead to overliming.

Liming materials. The most common liming materials are calcitic or dolomitic agricultural limestone. Calcitic limestone is mostly calcium carbonate ($CaCO_3$). Dolomitic limestone is made from rocks containing a mixture of calcium and magnesium carbonates. Dolomitic limestone also provides magnesium. Not all materials containing calcium and magnesium are capable of reducing soil acidity. Gypsum ($CaSO_4$) does not reduce soil acidity.

Lime may be applied at any time during the year to Florida citrus groves.

Calcium sources

Source	Chemical formula	Calcium carbonate equiv. (pure form)
Burned lime (Quicklime)	CaO	179
Hydrated lime (Builder's lime)	$Ca(OH)_2$	135
Dolomitic lime	$CaCO_3 \bullet MgCO_3$	109
Calcitic lime	$CaCO_3$	100
Basic slag (by-product)	$CaSiO_3$	80
Marl (soft carbonates)	$CaCO_3$	70 to 90
Gypsum	$CaSO_4$	0
Calcium nitrate	$Ca(NO_3)_2$	20
Ordinary superphosphate	$Ca(H_2PO_4)_2 + CaSO_4$	0
Concentrated superphosphate	$Ca(H_2PO_4)_2$	0

Citrus Greening Scouting Companies

Updated August 25, 2009

Disclaimer: *The listing in this publication does not indicate general or specific endorsement or exclusion of product or service, nor does it indicate approval by the University of Florida, the Institute of Food and Agricultural Sciences, or the Florida Cooperative Extension Service.*

If you would like your company information to be added to this list, please contact Jamie Yates, jdyates@ufl.edu or 863-956-1151.

Circle H Citrus, Inc.
PO Box 14049, Ft. Pierce, Florida 34979
Contact: Hoyt Howard
Office: 772-461-8868
Cell: 772-643-5789
Fax: 772-461-9477
Email: hoytjr@bellsouth.net
Method: Walking
Counties: Indian River, Martin, Okeechobee, St. Lucie

Citrus Solutions, LLC
PO Box 1341, Zolfo Springs, Florida 33890
Contact: Matt Moye
Cell: 863-990-0071
Fax: 863-491-7295
Email: moyeboy2@hotmail.com
Method: Walking
Counties: All Florida counties

Florida Citrus Service, Inc.
PO Box 295, Arcadia, Florida 34265
Contact: Herb Pollard (863-990-0111)
Contact: Tim Wood (863-244-8938, tacwood@verizon.net)
Office: 863-993-1138
Fax: 863-993-2002
Method: Walking
Counties: All Florida counties

Krause Grove Service, Inc.
2807 Ralph Johns Road, Wauchula, Florida 33873
Contact: Efran Schraeder
Office: 863-735-1286
Cell: 863-781-0090
Fax: 863-735-2532
Email: kgses@earthlink.net
Website: www.krausegroveservice.com
Methods: Walking, ATV, Elevated Platform
Counties: Desoto, Hardee, Highlands, Manatee, Polk

Lennon Grove Service
2701 Dean Ridge Road, Orlando, Florida 32825
Contact: Bill Lennon
Office: 407-384-1411
Cell: 407-719-5496
Fax: 407-384-9678
Email: lgscitrus@aol.com
Method: ATV
Counties: Brevard, Lake, Marion, Orange, Osceola, Polk, Seminole, Volusia

Nuvee Enterprises, Inc.
8501 SW 10th Lane, Okeechobee, Florida 34974
Contact: Bruce Sutton
Cell: 863-697-8840
Fax: 863-357-7763
Email: nuveeinc@yahoo.com
Website: www.nuveeinc.com
Methods: Walking, Elevated Platform
Counties: Collier, Desoto, Hendry, Highlands, Indian River, Okeechobee, Manatee, Martin, Palm Beach, Polk, St. Lucie

Pest and Disease Management, LLC (dba PDM Scouting Service)
PO Box 1669, Avon Park, Florida 33826
Contact: Holly L. Chamberlain
Office: 863-453-3040
Cell: 863-990-7268
Fax: 863-453-0564
Nextel: 158*11977*6
Email: HLChamberlain@embarqmail.com
Website: http://pdmscoutingservice.com/
Methods: Walking, ATV, Elevated Platform
Counties: All Florida counties

UF UNIVERSITY of FLORIDA
IFAS Extension

Citrus Greening Scouting Companies

Updated August 25, 2009

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Standard Citrus Scouting, LLP

PO Box 970, Dundee, Florida 33838
Contact: Todd Holtsberry
Cell: 407-729-9068
Fax: 863-419-0533
Email: toddscs@tampabay.rr.com
Method: ATV, Elevated Platform
Counties: All Florida counties

Statewide Harvesting and Hauling, LLC

PO Box 1804, Dundee, Florida 33838
Contact: Jon Bentley
Office: 863-439-4225
Cell: 863-287-0865
Fax: 863-439-9503
Email: jbentley@statewideharvesting.com
Methods: ATV, Elevated Platform
Counties: Brevard, DeSoto, Glades, Hardee, Hendry, Highlands, Hillsborough, Indian River, Lake, Manatee, Orange, Osceola, Pasco, Polk, Seminole, St. Lucie, Volusia

For more information, please contact your local multi-county citrus extension agent
http://citrusagents.ifas.ufl.edu

UF UNIVERSITY of FLORIDA
IFAS Extension

UF UNIVERSITY of FLORIDA
IFAS Extension

Certified Crop Adviser

Educational Seminar and CEU Session

October 14, 2009

7:30 AM to 5:30 PM

Soil and Water Management (5 CEUs)
Crop Management (5 CEUs)

On-site host: UF/IFAS Citrus Research and Education Center in Lake Alfred, and offered by videoconference at:

- Gulf Coast REC in Wimauma
- Southwest Florida REC in Immokalee
- Indian River REC in Ft. Pierce
- University of Florida main campus in Gainesville

Speakers will deliver their presentation from the site in their respective area.

Regular registration is $100
Lunch will be provided at all sites.

Please send the attached registration form to the Citrus Research and Education Center, Lake Alfred.

Visit the CCA Seminar website at www.crec.ifas.ufl.edu/cca for the specific program as it becomes available.

Future CCA Seminar Dates: Wednesday, April 14, 2010 and Wednesday, October 13, 2010

UF UNIVERSITY of FLORIDA
IFAS Extension

Registration Form

CERTIFIED CROP ADVISER CEU SESSION
SOIL AND WATER MANAGEMENT (5 CEUs) – CROP MANAGEMENT (5 CEUs)

Wednesday, October 14, 2009

www.crec.ifas.ufl.edu/cca

Registration by mail is $100; Registration at the door is $120.

On-site host: UF/IFAS Citrus Research and Education Center in Lake Alfred. Please register by October 9 for the videoconferences at Immokalee, Balm, Ft. Pierce, and Gainesville. We need the advance notice to make additional arrangements at these sites.

I. **LOCATION** -Speakers will deliver their presentation from the site in their respective area. Lunch and refreshments provided at all locations.

Check one:

_____ **Lake Alfred (host site)**
UF/IFAS Citrus Research and Education Center, 700 Experiment Station Road, Lake Alfred, FL 33850; Tel. (863) 956-1151

_____ **Immokalee (videoconference)**
UF/IFAS Southwest Florida Research and Education Center, 2686 SR 29 N, Immokalee, FL 34142; Tel. (239) 658-3400

_____ **Balm (videoconference)**
UF/IFAS Gulf Coast Research and Education Center, 14625 County Road 672, Wimauma, FL 33598; Tel. (813) 634-0000

_____ **Ft. Pierce (videoconference)**
UF/IFAS Indian River Research and Education Center, 2199 S. Rock Road, Ft. Pierce, FL 34945; Tel. (772) 468-3922

_____ **Gainesville (videoconference)**
University of Florida campus in Gainesville (McCarty Hall, Room 2175)
Contact is Mr. Greg Means at (352) 392-1951, ext. 253

II. CONTACT INFORMATION (Please print or attach a business card)

To register, complete this form and mail with payment.

Name(s): _____

Affiliation: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone: _____ FAX: _____

E-Mail: _____

Dietary restrictions or special accommodations: _____

III. PAYMENT

Registration: Includes admission to the 1-day workshop, handouts, lunch, coffee breaks.

By mail ($100) $100.00 × (No.) _____ = $_____ (Total) At the door ($120)

Please make payment by **check** payable to **CRE FOUNDATION**, or **CREF**.

Cancellations: If your cancellation is received in writing before October 7, 2009, we will be happy to refund your registration fee less a $25 administrative fee. Fees cannot be refunded for registrations cancelled after October 7, 2009. Thank you and we look forward to seeing you soon!

Mail this form and payment to:

Citrus Research and Education Foundation
Attn: Jane Wilson
700 Experiment Station Road
Lake Alfred, FL 33850-2299

For questions about the CCA Seminar Program, contact one of the Program Coordinators:

Tom Obreza, UF/IFAS Soil & Water Science Department, PO Box 110510, Gainesville, FL 32611; Tel. (352) 392-1951, ext. 243; e-mail: obreza@ufl.edu.

Ed Hanlon, UF/IFAS Southwest Florida Research and Education Center, 2686 SR 29 North, Immokalee, FL 34142-9515; Tel. (239) 658-3400; e-mail: eahanlon@ufl.edu.

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EFFECT OF WATER pH ON EFFICACY OF PESTICIDES

Successful citrus growers should check the soil pH of their groves yearly and do their best to adjust it for better fertilizer efficiency, tree growth, and fruit production. Soil pH is usually increased by liming and decreased by applying sulfur or acid-forming fertilizers. The pH indicates whether the solution or media is acidic or basic (alkaline). The pH scales goes from 0 to 14, where 7 indicates neutrality. Values less than 7 indicate acidic solutions and values greater than 7 indicate a basic condition. Most of Florida fresh waters have pH values between 7 and 8. Although the pH is the most common measured property or characteristic of a solution or a media, some growers and production managers still ignore to adjust the pH of their water when used for pesticide mixing. For better efficacy, anyone involved in pesticide mixing should use a pH meter. The pH affects the rate at which some herbicides are absorbed by plants. Adjusting the pH of the water allows the user to reduce the rates of herbicides without reducing their efficacy. The effectiveness of spray mixture in the spray tank can be affected by a number of variables. A significant impact on the efficacy of many spray materials is the pH of the water used in the tank. In general, it is desirable to have the pH of the water below 7. Although several chemicals used today are effective at a wide range of pH conditions, many others can be subject to breakdown of the active ingredient at relatively high pH values. With extremely sensitive chemicals, this breakdown can begin between mixing and application. Sevin is among the common pesticides that lose their effectiveness quickly in alkaline (pH values greater than 7) solution. Therefore, it is recommended to reduce the pH of the water in the tank to increase the efficacy of some chemicals. Acidifying agents such as phosphoric acid and citric acid will lower the pH, but can drop it too low. Buffering agents, available from most distributors, will lower the pH to the desired range and help maintain it at that level. It is important to add the buffer to the spray tank water before pesticides are added. **Glyphosate works better when ammonium sulfate is added to the spray tank at rates of 8.5 to 17 pounds for every 100 gallons of spray solution.** Be careful when buffering tank mixes containing copper fungicides. Copper is more soluble in acidic water, and the resulting high concentrations will cause leaf and fruit burn. Aliette makes acid spray. Therefore, do not mix Aliette with copper. **Always read the label of the buffering material as well as the label of the pesticide**. It is also recommended to ask your chemical supplier for up-to-date information on the susceptibility of a material to hydrolysis. A good rule of thumb is to spray pesticide mixtures as soon after mixing as possible, mix only enough to treat the crop and do not allow the mixture to stand for a long period of time or overnight.

United States Department of Agriculture
National Agricultural Statistics Service

Cooperating with the Florida Department of Agriculture & Consumer Services
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COMMERCIAL CITRUS INVENTORY - PRELIMINARY REPORT

ALL CITRUS ACREAGE DECLINED TO 568,814

Results of the first annual commercial citrus inventory show a net change of -7,763 acres, or -1.3 percent, in the 1 year period, considerably less than in recent 2 year survey periods. The elimination and removal of infected trees due to citrus canker and greening diseases contributed to the gross loss of 19,918 acres. New plantings of 12,155 acres are above the annual averages of the 2006 and 2008 surveys and partially offset the gross loss. Of the 30 counties included in the survey, 17 recorded decreases and 13 showed increases in acreage. Martin County suffered the greatest loss in acreage at 4,170, while Brevard County lost the highest percentage at 18.6. Hardee and Polk had the largest gains and Polk continues to lead with the most acres at 82,629. Hendry is second with 66,821 acres while Highlands and DeSoto follow with over 62,000 acres each. For total trees, Hendry remains the leader with 10.0 million, followed by Polk with 9.8 million, DeSoto with 8.3 million, and Highlands with 8.0 million trees.

ALL ORANGE ACREAGE DROPPED TO 492,529

All orange acreage declined for the fifth consecutive survey and, at 492,529, is the lowest since the 1986 census, when a record low of 466,252 remained following several major freezes. Although the Southern area's acreage decreased from 2008, it still leads with 29.8 percent of all acres. Acreage increases were recorded in the Central area, now at 28.7 percent and Western area at 27.6 percent. The relationship between bearing and non-bearing trees is nearly the same as in 2008 with over 93 percent bearing. Young Valencia trees comprise 40 percent of the non-bearing category while the non-bearing Temple trees total only 800. All Valencia trees comprise 55 percent of the total orange trees; early-midseason-Navel-Temples account for 43 percent; and the unidentified (primarily nonbearing) trees make up the remainder.

GRAPEFRUIT ACREAGE DECREASED TO 53,863

Grapefruit acreage has fallen 5.3 percent to a new low of 53,863 which represents only 60 percent of the pre-hurricanes figure. The white seedless variety has lost almost 10 percent of its acreage and 11 percent of the trees since the previous survey. The Indian River District, although devastated by losses caused by the canker and greening diseases, has the highest inventory with 74.4 percent, or 40,059 acres, of the State total. Colored seedless acres total 36,974 and white acres are at 15,966. Only 573 acres of seedy grapefruit remain. Due to the limited availability of resets over the past 3 years, only 3.6 percent of the total grapefruit trees are listed in the non-bearing category.

SPECIALTY ACREAGE REDUCED TO 22,422

Specialty fruit acreage has continued to decline across the state and now stands at 22,422, slightly more than one-fifth of the record 101,615 acres in 1970. Temples are included with oranges since 2008. Tangelo acreage and tree losses have slowed to 2 percent in the past year while tangerine losses are at 3 percent. Honey tangerines account for 49 percent of the total tangerine category with 7,319 acres. Despite losses, Sunburst remains at 80 percent of the early tangerine total with 6,118 acres. Fallglo acreage at 1,559 is only two-thirds of the 2004 total. True lemon acreage has decreased by 23 percent since 2008.

ALL CITRUS: Acreage and tree numbers, by county and year of inventory [1/]

County	2004	2006	2008	2009	2004	2006	2008	2009
	Acres				*1,000 trees*			
Brevard	6,249	5,080	4,451	3,622	664.0	553.5	477.5	410.4
Charlotte	20,183	11,883	11,991	12,098	2,998.9	1,708.6	1,710.5	1,716.1
Citrus	146	145	138	139	17.1	16.9	15.5	15.7
Collier	34,878	33,394	31,596	31,247	5,101.1	4,881.7	4,634.0	4,579.5
DeSoto	68,559	61,083	61,426	62,304	9,080.1	8,181.7	8,239.5	8,304.5
Glades	10,103	8,555	9,052	9,090	1,640.9	1,390.0	1,392.8	1,389.7
Hardee	54,414	45,084	45,190	47,130	6,462.6	5,511.5	5,463.5	5,714.6
Hendry	93,155	79,726	69,927	66,821	14,298.1	12,280.5	10,576.8	10,038.6
Hernando	971	921	895	917	113.0	106.6	101.9	104.2
Highlands	74,623	62,671	62,599	62,443	9,962.1	8,252.9	8,025.6	8,018.5
Hillsborough	19,187	14,783	11,248	10,946	2,131.1	1,628.9	1,259.0	1,236.8
Indian River	47,539	40,191	39,013	38,377	5,322.3	4,504.3	4,344.1	4,204.0
Lake	17,486	15,198	13,100	12,884	2,415.2	2,122.5	1,829.2	1,797.3
Lee	11,067	10,658	10,373	10,477	1,549.2	1,489.3	1,417.1	1,433.1
Manatee	20,316	18,548	18,389	18,609	2,590.5	2,431.0	2,391.9	2,413.8
Marion	1,212	1,185	1,180	1,183	149.6	146.1	143.8	144.1
Martin	40,330	35,038	23,169	18,999	5,732.2	5,024.3	3,388.1	2,769.7
Okeechobee	11,891	9,222	8,327	7,930	1,460.9	1,056.9	940.1	901.2
Orange	5,593	4,548	3,674	3,618	666.4	549.4	437.8	433.4
Osceola	13,804	12,170	9,197	9,718	1,594.1	1,411.0	1,082.2	1,154.7
Palm Beach	4,542	1,668	997	1,013	699.8	256.4	170.6	164.5
Pasco	9,831	8,190	7,957	7,615	1,323.7	1,140.9	1,113.6	1,063.9
Polk	95,050	86,398	81,375	82,629	11,147.1	10,222.5	9,699.1	9,841.8
Putnam	205	182	190	203	33.8	30.5	29.5	30.5
St. Lucie	82,987	51,387	48,073	45,800	10,342.0	6,637.6	6,151.0	5,883.7
Sarasota	1,684	1,652	1,502	1,411	190.5	187.7	170.5	159.3
Seminole	1,147	529	491	482	122.5	59.6	56.9	55.4
Volusia	1,344	1,231	1,083	1,065	130.4	120.9	108.7	106.5
Other Counties [2/]	59	53	55	44	5.8	5.3	5.3	5.0
TOTAL	**748,555**	**621,373**	**576,577**	**568,814**	**97,945.0**	**81,909.0**	**75,376.1**	**74,090.5**

[1/] Miami-Dade excluded beginning in 2004; Broward excluded beginning 2006.

[2/] Includes Alachua, Broward, and Pinellas in 2004 and 2006; Alachua and Pinellas in 2008 and 2009.

United States Department of Agriculture
National Agricultural Statistics Service

CITRUS ABANDONED ACRES

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FLORIDA CITRUS: Abandoned acreage by county and survey

County	Parcels		Abandoned Grove		Abandoned Understory		Abandoned Total	
	2008	2009	2008	2009	2008	2009	2008	2009
			Acres					
Brevard	490	596	5,873	6,056	70	70	5,943	6,126
Charlotte	201	194	2,634	2,481	0	0	2,634	2,481
Citrus	10	11	192	175	0	27	192	202
Collier	29	27	522	430	0	0	522	430
DeSoto	493	490	5,473	5,352	0	0	5,473	5,352
Glades	33	35	557	565	0	0	557	565
Hardee	469	446	3,394	3,195	0	0	3,394	3,195
Hendry	400	407	12,259	12,272	37	37	12,296	12,309
Hernando	46	50	839	923	0	20	839	943
Highlands	186	194	2,105	2,147	0	0	2,105	2,147
Hillsborough	506	252	3,952	4,378	0	0	3,952	4,378
Indian River	786	791	13,781	13,220	0	0	13,781	13,220
Lake	782	808	9,290	9,750	754	1,242	10,044	10,993
Lee	107	109	887	897	0	0	887	897
Manatee	324	336	3,067	3,227	0	0	3,067	3,227
Marion	23	26	212	213	0	82	212	295
Martin	278	402	11,114	15,411	0	0	11,114	15,411
Okeechobee	56	88	1,092	2,066	0	0	1,092	2,066
Orange	261	274	2,530	2,631	0	49	2,530	2,680
Osceola	322	359	2,860	3,330	0	0	2,860	3,330
Palm Beach	176	169	5,857	5,619	0	0	5,857	5,619
Pasco	224	237	2,158	2,162	243	271	2,401	2,433
Polk	1,329	1,344	11,640	11,716	19	118	11,659	11,834
Putnam	14	12	117	98	0	0	117	98
Sarasota	22	18	347	132	0	0	347	132
Seminole	95	93	762	646	0	0	762	646
St. Lucie	750	903	24,737	26,741	548	548	25,285	27,289
Volusia	175	192	1,538	1,707	0	0	1,538	1,707
Others [1/]	10	11	80	85	0	0	80	85
Total	8,597	9,147	129,869	137,625	1,671	2,464	131,540	140,089

[1/] Alachua and Pinellas counties.

ABANDONED ACREAGE

In combination with the latest commercial citrus tree inventory, abandoned citrus groves were also identified. Experienced agricultural personnel evaluated tree condition and made an overall assessment of citrus groves contained in the maps of Florida citrus growing areas.

The amount of abandoned citrus acreage is updated and published on an annual basis to keep pace with constant changes. Some citrus groves previously identified as abandoned have been removed and destroyed. Additional groves are added each year when they meet the abandoned grove criteria.

A grove is considered abandoned when the following conditions exist: no production care during the past 2 years, no weed control or grass mowing, livestock present, weather damage, neglected trees that are not economically feasible to maintain or no commercial harvest during the last 2 seasons. In some cases, property owners or caretakers were contacted and questioned regarding future use of their citrus groves.

Results of this survey include 2,465 understory acres comprised of pine stands and forested areas with abandoned, unintentional, or feral citrus trees scattered under their canopy. These acres pose a potential threat as a possible source of pests and diseases.

The Indian River District leads with 51,926 abandoned acres and includes St. Lucie County, (27,289) with nearly 20 percent of the State total. Other counties with more than 10,000 abandoned acres include Martin, Indian River, Hendry, Polk, and Lake. An additional 13 counties have 1,000 or more abandoned acres.

SUMMARY OF SW FLORIDA CITRUS

SW Florida citrus acreage

County	2004	2006	2008	2009
	Acres			
Charlotte	20,183	11,883	11,991	12,098
Collier	34,878	33,394	31,596	31,247
Glades	10.103	8.555	9.052	9.090
Hendry	93,155	79,726	69,927	66,821
Lee	11,067	10,658	10,373	10,477
Total	**169,386**	**144,216**	**132,939**	**129,733**

SW Florida abandoned citrus acres

County	2004	2006	2008	2009
	Acres			
Charlotte	201	194	2,634	2,481
Collier	29	27	522	430
Glades	33	35	557	565
Hendry	400	407	12,259	12,272
Lee	107	109	887	897
Total	**770**	**772**	**16,859**	**16,645**

SW Florida citrus tree numbers

County	2004	2006	2008	2009
	Million trees			
Charlotte	2.999	1.709	1.711	1.716
Collier	5.101	4.882	4.634	4.580
Glades	1.641	1.390	1.393	1.390
Hendry	14.298	12.281	10.577	10.039
Lee	1.549	1.489	1.417	1.433
Total	**25.588**	**21.751**	**19.732**	**19.158**

Southwest Florida Citrus Production (Boxes)

SEASON	Charlotte	Collier	Glades	Hendry	Lee	Total
2003-2004	7,214,000	11,413,000	3,806,000	33,852,000	3,511,000	59,796,000
2004-2005	6,119,000	10,478,000	3,517,000	29,607,000	2,861,000	52,582,000
2005-2006	2,246,000	6,134,000	1,740,000	15,752,000	1,806,000	27,678,000
% Reduction for 2005-06 compared with 04-05	63.3	41.5	50.5	46.8	36.9	47.4
2006-2007	2,996,000	8,390,000	2,372,000	21,414,000	2,583,000	37,755,000
% Increase for 2006-07 compared with 2005-06	33.3	36.8	36.3	35.9	43.0	36.4
2007-2008	3,681,000	10,494,000	3,356,000	24,420,000	3,367,000	45,318,000
% Increase for 2007-08 compared with 2006-07	22.9	25.1	41.5	14.0	30.0	20.0
2008-2009	3,503,000	10,069.000	3,057,000	21,796,000	3,226,000	41,651,000
% Reduction for 2008-09 compared with 07-08	4.8	4.1	8.9	10.8	4.2	8.1

COOPERATIVE DORMANT SPRAY PROGRAM AGAINST ASIAN CITRUS PSYLLID IN SW FLORIDA

The Asian citrus psyllid is the vector for the citrus greening disease or Huanglongbing (HLB). During late fall and early winter, weather in Florida is generally dry and cool, causing citrus trees to cease producing new foliage that psyllids depend on to lay eggs and reproduce. Adults must then "overwinter" by feeding on mature leaves until the spring flush, generally in mid to late February. An effective tool to suppress the pest is the "dormant spray" which is a foliar application of insecticide directed against overwintering adults. The dormant spray attacks the pest at its weakest point, when beneficial insects like ladybeetles and lacewings are generally absent from the groves. The larger the treated area of citrus, the greater is the effectiveness of dormant sprays.

The Gulf region is launching another coordinated spray program to deal with the psyllids. We are seeking cooperation and support from ALL citrus growers. We are recommending 2 dormant sprays, the first in Nov-Dec after fall flush, and the second one in Jan-Feb before bud break or initiation of the new spring flush. These can be put on by air or by ground with any recommended insecticide to control psyllid adults.

To schedule an aerial spray in SW Florida, growers can contact Steve Fletcher, Fletcher Flying Service, Inc. Phone: 239 860 2028, e-mail: fletcherflying@hotmail.com and Jeff Summersill, Thomas R. Summersill, Inc., at 561 722 4502, e-mail: trsummersill@msn.com

For more information, contact Drs. Phil Stansly (239 658 3400, pstansly@ufl.edu) and Mongi Zekri (863 674 4092, maz@ufl.edu) or Ron Hamel (863 675 2180, gulfcitruscapron@embarqmail.com

More details will be included in the next issue of this newsletter.