Citrus Notes

Chris Oswalt
UF/IFAS Citrus Extension Agent for Polk & Hillsborough Counties

IMPORTANT DATES

APRIL 30, 2019
STONE FRUIT FIELD DAY
Citra, FL

MAY 2, 2019
PRODUCE SAFETY ALLIANCE CITRUS GROWERS TRAINING
Lake Alfred, FL

MAY 14, 2019
OJ BREAK
Lake Alfred, FL

CONTACT INFO

POLK & HILLSBOROUGH COUNTY EXTENSION SERVICE

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Bartow, FL 33831
(863) 519-1052
Email: wcoswalt@ufl.edu

HILLSBOROUGH COUNTY EXTENSION SERVICE

5339 County Road 579
Seffner, FL 33584
(813) 744-5519
Ext. 541231

May 2019

OJ Break

The May 2019 OJ break will be held on May 14, 2019 beginning at 10:00 a.m. at the UF/IFAS Citrus Research and Education Center's BHG Citrus Hall in Lake Alfred. Our speakers will be Dr. Arnold Schumann and Rick Lusher. Dr. Schumann will be discussing the use and selection of soil moisture sensors for use in sandy ridge soils. Rick Lusher, the director of the Florida Automated Weather Network (FAWN), will be discussing opportunities to add your weather stations to the Florida Farm Weather Network.

This month, our lunch sponsor will be the Polk County Soil and Water Conservation District and Chairman, Joe Garrison. We need you to register for the meeting so we have a head count for lunch. **Please register by Friday, May 10, 2019** by calling Gail Crawford at 863-519-1042 or by email at: dorothyc@ufl.edu or by eventbrite at: https://polkojmay2019.eventbrite.com .

Stone Fruit

Field Day

Dr. Ali Sarkhosh is conducting a UF/IFAS Stone Fruit Field Day to be held at the Frank Stronach Conference Center, at the UF/IFAS Plant Science Research and Education Center in Citra, FL. The field day will be held on Tuesday, April 30, 2019. I have included additional information and a registration flyer in this issue of the newsletter.

Produce Safety Alliance

Citrus Grower Training

There will be a Food Safety and Modernization (FSMA), Produce Safety Rule Training held at the UF/IFAS Citrus Research and Education Center in Lake Alfred on Thursday, May 2, 2019. This training will be focusing specifically on fresh market Florida citrus growers. As mentioned in the past, this training will be required (the timeframe for compliance is dependent upon farm revenue) for growers of fresh citrus by the Food and Drug Administration.

I have included a flyer with registration and additional program information.

Florida State

Horticultural Society

The 132nd Annual meeting of the Florida State Horticultural Society will be held June 9 to 11, 2019, at the Sheraton Orlando North Hotel. For additional information on meeting registration and membership in the Society, please visit: https://fshs.org .

UF IFAS Extension
UNIVERSITY of FLORIDA

The Foundation for the Gator Nation

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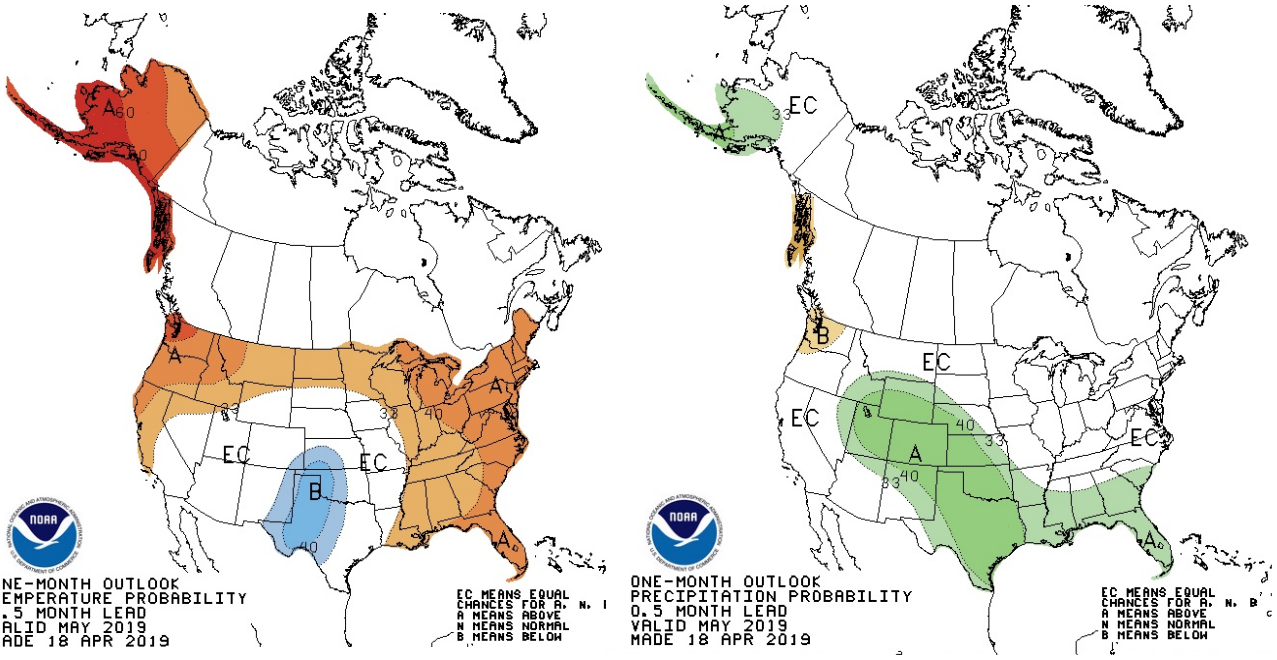
WEATHER OUTLOOK

MONTHLY OUTLOOK FOR MAY 2019 - TEMPERATURE AND PRECIPITATION



2019

Hurricane Season

According to the National Weather Services' Climate Prediction Center, weak El Nino conditions are forecasted for this summer (a 65% chance) with the weak conditions continuing into the fall (at a 50-55% chance). El Nino conditions in the equatorial Pacific would typically bring a more zonal weather flow from west to east across the southern United States. This upper air zonal flow condition will tend to affect the Atlantic hurricane season.

In consideration of this weather pattern, the Atlantic hurricane forecast from Dr. Klotzbach, of Colorado State University, predicts a slightly below average hurricane activity for the 2019 Atlantic hurricane season.

Dr. Klotzbach's forecast predicts there will be 13 named storms this season. The historical season average (1981-2010) is 12.1 named storms. Of these named storms, five will become hurricanes (historical average 6.4), and of these five, two are predicted to be major hurricanes (historical average 2.7).

Furthermore, the probabilities for at least one major hurricane making landfall along the entire U.S. coastline is 45%. The likelihood of a major hurricane making landfall on the U.S. east coast, including peninsula Florida, is 28% and making landfall on the Gulf coast from the Florida panhandle west to Brownsville, Texas is also 28%. These probabilities compare to the last century averages of 52% for making landfall along the entire U.S. coast, 31% for the U.S. east coast including peninsula Florida and 30% for the Gulf coast from the Florida panhandle west to Brownsville, Texas.

Hurricane predictions become more accurate as we approach the start of the hurricane season. Remember, it only takes one hurricane to cause significant damage to your property and crop.

FDA Updates Regarding the

Produce Safety Rule

Remember that in Florida, FDACS has been commissioned by FDA to perform routine inspections. Although you'll be interacting with FDACS rather than FDA in routine inspections, the FDACS employees commissioned by FDA will essentially operate as FDA employees so we expect most of this information to be relevant to what will happen in Florida, including the part about inspections starting in Spring 2019, (for large farms over $500k in average annual produce sales) but also the part about initial inspections being educational in nature.

Update on Agricultural Water Compliance Dates

If you recall, in September 2017, FDA issued a *proposed* rule to extend the compliance dates for the PSR provisions related to agricultural water. FDA announced and released the final rule making those extended compliance dates for agricultural water provisions final. Larger farms are now required to comply with the agricultural water requirements by January 26, 2022, while small farms have until January 26, 2023 and very small farms until January 26, 2024. This rule does not change the compliance dates for sprout operations.

DRIS

DIAGNOSIS AND RECOMMENDATION INTEGRATED SYSTEM

DRIS results consist of a nutrient index for each nutrient, and an index for "dry mass" (DM). Indices range in value from negative (deficient or low) to near zero (optimum), to more positive (high or excessive). The magnitudes of the indices reflect the relative severity of the nutrient imbalance. An aggregate absolute value of all the indices is the Nutrient Balance Index (NBI), and a lower value indicates a more balanced tree nutrition. The diagnosis column lists the nutrients that are classified **"deficient", "low", "high" or "excess"** according to the SL253 IFAS publication. Moreover, the nutrients listed are ranked in order of decreasing severity (left to right). In the HLB era, this information is particularly useful since it can help prioritize the most appropriate corrective fertilization.

From: Arnold Schumann, UF/IFAS, Citrus Research and Education Center ***schumaw@ufl.edu***

DRIS-CitrusDRIS-example

Sample	N	P	K	Mg	Ca	S	B	Zn	Mn	Fe	Cu	DM	NBI	Diagnosis
Lab 1	E	H	E	O	D	O	O	O	O	L	L			
DRIS 1	129	191	125	-37	-528	46	-77	143	135	22	-157	7	1591	DEFICIENT: Ca LOW: Fe<Cu HIGH: P EXCESS: N>K
Lab 2	H	H	O	L	L	D	L	L	L	O	O			
DRIS 2	142	261	12	-216	-62	-100	-85	28	-102	75	-59	106	1141	DEFICIENT: Mn<S LOW: Zn<Ca<B<Mg HIGH: P>N
Lab 3	O	O	O	L	D	D	L	L	D	L	L			
DRIS 3	68	277	1	-76	-94	-83	-80	65	-188	49	-75	134	1056	DEFICIENT: Mn<Ca<S< LOW: Fe<Cu<Mg<B
Key	Excessive or High =			Low =			Deficient =							
	Optimum =													

This web-based deployment of DRIS is designed for analyzing leaf nutrient concentrations of Florida citrus. It has been **optimized for Florida oranges (and related varieties)** and the DRIS norms used for calculations were derived from a high-yielding 'Hamlin' orange grove in the central Florida Ridge region *prior* to the spread of greening disease (Huanglongbing, HLB). Since varieties like grapefruit have lower N requirements than oranges, the DRIS results for grapefruit may be less useful. (Dr. Schumann, http://www.makecitrusgreatagain.com/cgi-bin/driscgiproject1)

DRIS

Discussion

The example above illustrates the conventional citrus leaf analysis run by a commercial laboratory (in the table noted as Lab 1 to Lab 3). The results from entering the laboratory leaf analysis values into and running DRIS analysis for each corresponding laboratory sample are listed in the above table as DRIS 1 to DRIS 3. I have further color-coded the results from the laboratory and the DRIS analysis into the following categories: excessive/high, optimum, low or deficient. In comparing the results from the commercial labs and the DRIS analysis for the first sample Lab and DRIS 1, the results are identical in their category descriptions. In Lab and DRIS 2, the only discrepancy is with the element manganese. The lab result fell within the low category, while DRIS analysis indicated that it was deficient. For Lab and DRIS 3, the discrepancy was with the element zinc. The levels from the commercial lab were considered low, while DRIS analysis resulted in an optimum level for zinc.

In addition to DRIS analysis accounting for differences in leaf weight, it also provides guidance as to the most critically deficient elements. As mention by Dr. Schumann in his explanation (ranking of deficiencies), this should be useful in determining the nutrient of most critical need and provide a starting point to better fine tune your citrus nutritional program.

Running DRIS is relatively simple and straightforward, instructions and the DRIS program can be found at http://www.makecitrusgreatagain.com/.

UF/IFAS EXTENSION PRESENTS

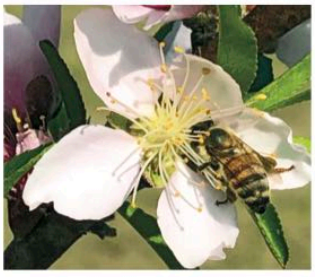
NO REGISTRATION FEE

Sponsored by Maxijet

PLEASE RSVP BY APRIL 23
stonefruitfieldday2019.eventbrite.com
or to Staci Sanders (352) 591-2678

Frank Stronach Conference Center

UF/IFAS Plant Science
Research and Education Unit
West Highway 318
Citra, FL 32113



Questions?

Contact Juanita Popenoe, Multi-County Commercial Fruit Production Agent, UF/IFAS Extension Lake County at jpopenoe@ufl.edu or 352-343-4101 ext. 2727

AGENDA	
9:30 a.m.–10:30 a.m.	**Registration and Welcome** Dr. Sarkhosh, Dr. Popenoe and PSREU team
10:00 a.m.–10:20 a.m.	**Subtropical Peach Production in Florida: Research and Extension Update** Dr. Ali Sarkhosh, UF/IFAS Horticultural Sciences Department
10:20 a.m.–10:45 a.m.	**Progress in Low-chill Peach Variety Development for Florida** Dr. Jose Chaparro, UF/IFAS Horticultural Sciences Department
10:45 a.m.–11:10 a.m.	**Prevention and Management of Peach Diseases in Florida** Dr. Phil Harmon, UF/IFAS Plant Pathology Department
11:10 a.m.–11:35 a.m.	**Maximizing Fruit Quality of Low-chill Peaches through Optimum Preharvest-Management Practices** Dr. Mark Ritenour, UF/IFAS Indian River Research and Education Center
11:35 a.m.–12:00 p.m.	**Prevention and Management of Root-knot Nematodes in Peach Orchard** Dr. Don Dickson, UF/IFAS Entomology and Nematology Department
12:00 p.m.–1:00 p.m.	**Lunch**
1:00 a.m.–1:30 p.m.	**Nitrogen Fertilization in Subtropical Peaches** Dr. Zilfina Rubio Ames, UF/IFAS Horticultural Sciences Department
1:30 p.m.–2:00 p.m.	**Bagging as an Alternative Insect and Disease Management Tool** David Campbell, UF/IFAS Horticultural Sciences Department
2:00 p.m.–2:30 p.m.	**Florida and the Not-So-Giant Peach: Can Peaches from Unthinned Trees be Used in the- Fermentation Industry** Savanna Curtis, UF/IFAS Food Science and Human Nutrition Department
2:30 p.m.–3:30 p.m.	**Field Plot Tour OR Tasting Fruit of Different Peach Cultivars** Drs. Chaparro, Sarkhosh, and Popenoe

Produce Safety Alliance Grower Training

May 2, 2019 8:00am – 5:00pm

UF/IFAS Citrus Research and Education Center
700 Experiment Station Road • Lake Alfred, FL 33850

Who Should Attend

Citrus growers and others interested in learning about produce safety, the Food Safety Modernization Act (FSMA) Produce Safety Rule, Good Agricultural Practices (GAPs), and co-management of natural resources and food safety are encouraged to attend. The PSA Grower Training Course is one way to satisfy the FSMA Produce Safety Rule requirement.

What to Expect

The trainers will spend approximately seven hours of instruction time covering content contained in these seven modules:

- Introduction to Produce Safety
- Worker Health, Hygiene, and Training
- Soil Amendments
- Wildlife, Domesticated Animals, and Land Use
- Agricultural Water (Part I: Production Water; Part II: Postharvest Water)
- Postharvest Handling and Sanitation
- How to Develop a Farm Food Safety Plan

In addition to learning about produce safety best practices, key parts of the FSMA Produce Safety Rule requirements are outlined within each module.

All standard course material will be covered, but instructors will focus the course on topics relevant to *fresh-market* Florida citrus growers.

There will be time for questions and discussion, so participants should come prepared to share their experiences and produce safety questions.

Benefits of Attending

The course will provide a foundation of Good Agricultural Practices (GAPs) and co-management information, FSMA Produce Safety Rule requirements, and details on how to develop a farm food safety plan.

After attending the entire course, participants will be eligible to receive a certificate from the Association of Food and Drug Officials (AFDO) that verifies they have completed the training course.

Cost to Attend: $25 **Please register at: https://psa050219.eventbrite.com**

Cost for non-industry members is $125. Cost includes the training materials, lunch, refreshments, and a certificate of attendance issued by AFDO. Seats are limited to 50. For questions, email Sarah McCoy at sarahmccoy@ufl.edu.

Please note: NO substitutions, transfers, or refunds will be issued within one week of the training start date.

Produce Safety ALLIANCE

FFVA FLORIDA FRUIT & VEGETABLE ASSOCIATION

UF IFAS UNIVERSITY of FLORIDA

FLORIDA CITRUS PACKERS 1960

Training materials and certificate are funded through the Florida Department of Agriculture and Consumer Services (FAIN #U18FD005909)

Produce Safety Alliance Grower Training

for Citrus Growers

REGISTRATION FORM

Registration is also available online at: **https://psa050219.eventbrite.com**

Please note: NO substitutions, transfers, or refunds will be issued within one week of the training start date.

UF/IFAS Citrus Research and Education Center – May 2, 2019

Name: _____

Company: _____

Address: _____

Email:_____

Phone: _____

Special meal requirements (vegetarian, etc.)?:_____

Your name EXACTLY as you would like it to appear on your certificate:

_____

Important: Make checks payable to "University of Florida"

Course registration of $25 for produce industry members ($125 for non-industry members) is requested by April 26th, 2019. Registration will be confirmed upon receipt of registration materials.

Mail check and registration to:

University of Florida
ATTN: Sarah McCoy
700 Experiment Station Road
Lake Alfred, FL 33850
sarahmccoy@ufl.edu

Training materials and certificate are funded through the Florida Department of Agriculture and Consumer Services (FAIN #U18FD005909)