Citrus Notes

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

March 2024

IMPORTANT DATES

APRIL 9, 2024
FLORIDA CITRUS GROWERS' INSTITUTE
Avon Park, FL

MAY 15, 2024
MAY OJ BREAK
Lake Alfred, FL

CONTACT INFO

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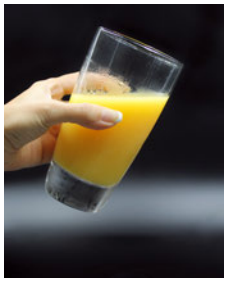
Email: wcoswalt@ufl.edu

HILLSBOROUGH COUNTY EXTENSION SERVICE
(813) 744-5519
Ext. 541231

2024 Florida
Citrus Growers' Institute

We have included the program brochure for this years' Florida Citrus Growers' Institute program. It will be held on Tuesday, April 9, 2024 in the University Center Auditorium of South Florida State College in Avon Park. We have approval for 4.5 CEUs for your Restricted Use Pesticide (RUP) license in ag tree and row crop, private applicator, and demonstration and research. Certified Crop Advisor CEUs will also be available. You can use the following link to register for the program: https://ufl.qualtrics.com/jfe/form/SV_9FunyFfN020fwcC. Additional registration options (mail, email or phone) are available in the brochure.

May
OJ Break



Our May OJ Break, to be held on Wednesday, May 15, 2024. It will begin at 10:00 a.m. at Lake Alfred's UF/IFAS Citrus Research and Education Center. The month's agenda includes Dr. Ute Albrecht, UF/IFAS SWFREC and Dr. Larry Duncan, UF/IFAS CREC.

We will have program and registration information in the April newsletter. We will have CEUs for your Restricted Use Pesticide and Certified Crop Advisory licenses also available at the OJ Break.

Postbloom
Fruit Drop (PFD)

In talking with a few growers to date, it appears the plentiful rainfall associated with El Niño weather pattern has caused there to be some localized issues beginning with PFD. If you have received some of this rainfall, you should be checking for disease symptoms on your flower petals. In addition, the FAWN website has tools from AgroClimate (http://agroclimate.org/tools/cas/) where you can monitor favorable weather conditions for disease development and recommendations for control measures.

UF | IFAS Extension
UNIVERSITY of FLORIDA

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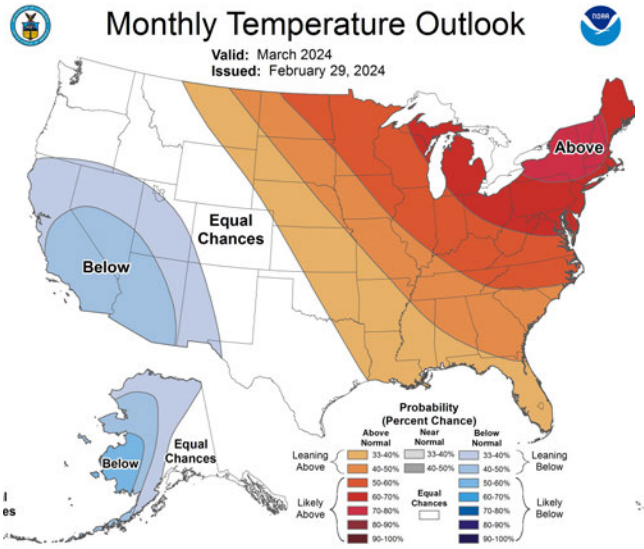
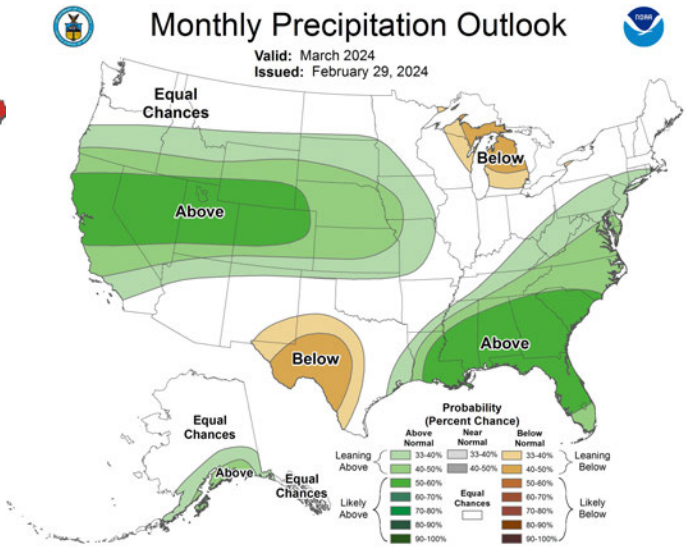
WEATHER OUTLOOK

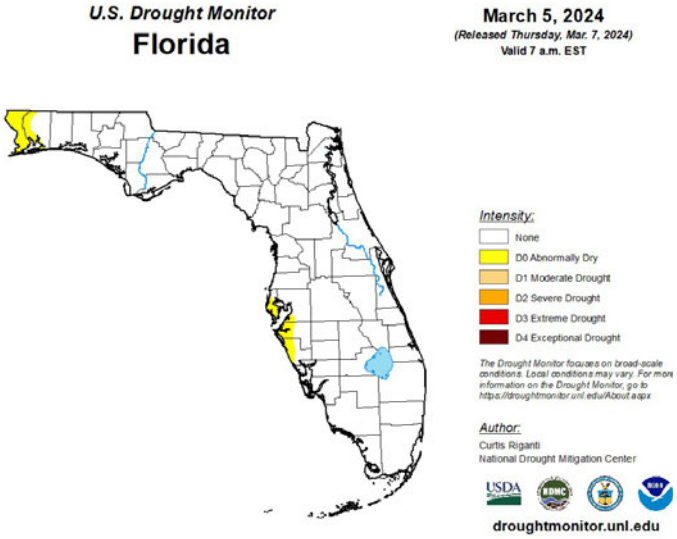
MONTHLY OUTLOOK FOR MARCH 2024 - TEMPERATURE AND PRECIPITATION





WEATHER OUTLOOK

MONTHLY DROUGHT MONITOR MARCH 2024



2024

March Outlook

The National Oceanic and Atmospheric Administration (NOAA) has recently published its latest weather outlook for February, and the outlook for temperature and rainfall is particularly noteworthy. According to the outlook, we are expecting above normal temperatures during this period (as indicated in Figure 1). This means that we may expect to see forecasted temperatures be above normal for this time of year (33 to 40% chance). The rainfall outlook (Figure 2) also presents a historically similar picture to the past few months, with the forecast calling for above-normal rainfall (50 to 60% chance). This suggests that we may receive above-average amounts of precipitation for month of February.

The El Niño Southern Oscillation (ENSO) forecast also plays a crucial role in shaping the weather outlook for this period. Currently, we are still under El Niño condition conditions. It is forecasted that these El Niño conditions will transition (a 79% probability) into a neutral conditions heading into April to June 2024. There is a 55% chance that these neutral conditions will evolve into La Niña by June to August. The latest El Niño forecast three month running average this month dropped from 2.0 to 1.8 indicating the shift to neutral conditions.

In conclusion, the latest NOAA weather outlook for the March 2024 period suggests that we may experience above normal temperatures and above-average rainfall. However, the U.S. Monthly Drought Outlook has dry conditions continuing for the west coastal area of peninsular Florida from just north of Tampa to coastal Charlotte County (depicted in Figure 3). The drought intensity affected area has been reduced in size from last month's forecast.

Citrus Nutrient Management on HLB-affected Round Orange and Grapefruit Groves on Flatwoods and Ridge Soils-Micronutrients

Researchers: Davie Kadyampakeni, Kelly Morgan, Lorenzo Rossi, Mark Ritenour, Qudus Uhtman
Contact: Davie Kadyampakeni, dkadyampakeni@ufl.edu UF/IFAS CREC

Take Home Message:

- Use both foliar and soil application of micronutrients for better uptake.
- Zinc can be applied at about 10 lbs per acre for better uptake.

Effort Statement: The project continued but no yield was collected due to fruit drop in 2023.

Summary: Nitrogen (N) and micronutrients have a key role in many citrus plant enzyme reactions. Although enough micronutrients may be present in the soil, deficiency can develop due to soil depletion or the formation of insoluble compounds. The objectives of this study were to determine the adsorption, distribution, and availability of zinc (Zn) in a sandy soil; compare the effectiveness of foliar and soil application methods of Zn, manganese (Mn), and boron (B) on huanglongbing (HLB)-affected trees; compare foliar application rates of Zn, Mn, and B for HLB-affected trees; and determine the effect of N rates on yield, soil inorganic N distribution patterns, and tree growth parameters. Tree rows were supplied with three N rates of 150, 200, and 250 lbs N per acre and Zn, Mn, and B at single and double recommended rates (recommended rate = 5 lbs Zn per acre) using foliar and soil application methods, in a split-plot experimental design. The results show that Zn and Mn concentration in the 0-6-inch soil depth was three times higher than the 12-18 and 18-24 inch soil depths during the study. An adsorption study revealed high Zn (Kd = 6.5) sorption coefficients at 0-6-inch soil depth, while 12-18 and 18-24 inch depths showed little sorption. Leaf Zn and Mn concentration for foliar spray was two times higher than the soil application method. A N level of 200 lbs N per acre improved canopy volume when compared to other N levels at the expense of reduced fruit weight. Foliar Zn and Mn application at 5 or 10 lbs Zn per acre and N rate at 200 lbs N per acre appear to be adequate for improving the performance of HLB-affected citrus trees.

Source: Keeping Florida Citrus Growers Informed. Aug 2023, pg.6. UF/IFAS CREC. Lake Alfred.

Development of Root Nutrient and Fertilization Guidelines for Huanglongbing-affected Orange and Grapefruit Trees

Researchers: Davie Kadyampakeni, Lorenzo Rossi, Alan Wright
Contact: Davie Kadyampakeni, dkadyampakeni@ufl.edu UF/IFAS CREC

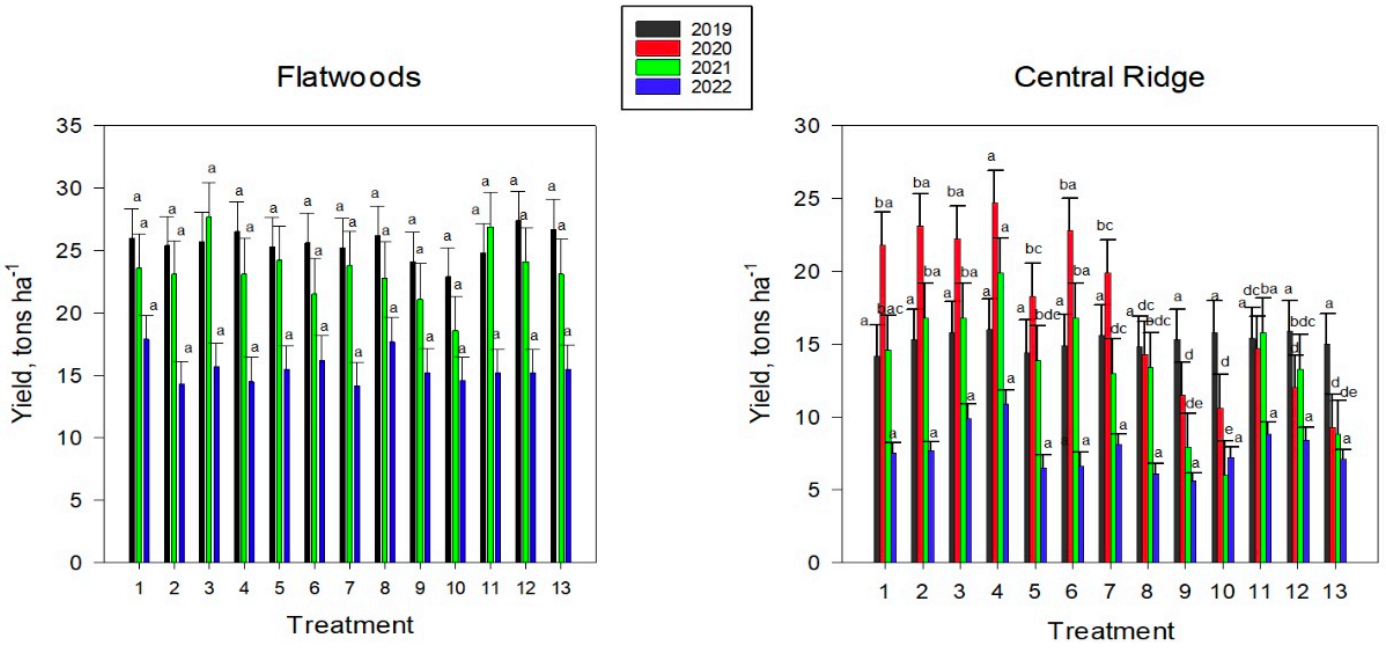
Take Home Message:

- Higher macronuitrient and micronutrient fertilization rates led to higher fruit yields and faster root growth.
- Soil fertilizer application for micronutrients was more effective in increased canopy size and root growth than foliar fertilization.

Effort Statement: This project is now completed.

Summary: Huanglongbing (HLB) disease lowers tree performance by reducing water and nutrient uptake as a result of root loss. HLB-affected trees have a fibrous root loss of about 30 to 80%, which increases as HLB symptoms develop in the canopy. Investigating optimal nutrient concentrations in citrus roots thus improves our understanding of HLB dynamics concerning root nutrition and fertilizer application methods. This study sought to evaluate nutrient uptake of HLB-affected orange trees via soil fertilizer applications for 5- to 6-year-old 'Valencia' orange trees on Swingle rootstock at Ridge and Flatwoods sites. Macronutrients and micronutrients were applied at varying fertilization rates of standard fertilization via fertigation according to UF/IFAS guidelines. We compared the standard fertilizer program with elevated macro- and micronutrient fertilization programs. Soil and leaf samples were collected for nutrient concentration analysis in spring and fall 2019 and summer 2020. No significant differences among treatments were observed for tissue and soil nutrient concentrations due to nutrient interactions. Fruit yield between 2019 and 2020 harvest seasons increased with increased nutrient availability. Therefore, at higher fertilization rates of (standard fertilization + 40 lbs/acre Ca + 40 lbs/acre Mg + 220 lbs/acre K + 20 lbs/ acre Fe, 20 lbs/acre Mn + 20 lbs/acre Zn + 4 lbs/acre B), HLB-affected trees showed increased nutrient uptake and root growth, improving overall tree performance..

Source: Keeping Florida Citrus Growers Informed. Aug 2023, pg.8. UF/IFAS CREC. Lake Alfred.



Fruit yield (ton ha^{-1}) of 'Valencia' orange (*Citrus sinensis*) trees at the Flatwoods and Central Ridge sites as a function of variable fertilizer rates. Treatment 1 (Standard rate-control), treatments 2 to 4 are standard rate + 1x macro + 1x-, 2x-, and 4x-micronutrient (soil applied), treatment 5 to 7 are standard rate + 2x macro + 1x-, 2x-, and 4x-micronutrient (soil applied), treatments 8 to 10 are standard rate + 1x macro + 1x-, 2x-, and 4x-micronutrient (foliar applied), and treatments 11 to 13 are standard rate + 2x macro + 1x-, 2x-, and 4x-micronutrient (foliar applied). Error bars with the same letter are not significantly different according to Tukey's HSD test at $p = 0.05$.

Purpose of the Institute

Citrus Greening or Huanglongbing (HLB) continues to impact all citrus production areas of Florida. The 2024 Florida Citrus Growers' Institute is an opportunity for Florida citrus growers to come together to learn about effective management of HLB and other challenging pests and diseases affecting the industry. Topics this year include horticultural management of HLB, citrus nutrient management and management of citrus pests and diseases.

Continuing Education Units

Continuing Education Units (CEU's) will be offered for holders of restricted use pesticide licenses (RUP) and certified crop advisors (CCA). CEU's have been requested in the following categories: private applicator, agricultural tree crop and demonstration & research for RUP holders. CEU's have been requested for CCA's in the appropriate CEU categories.

Sponsors

Platinum

Citrus Research and Development Foundation

Syngenta Crop Protection

Gold

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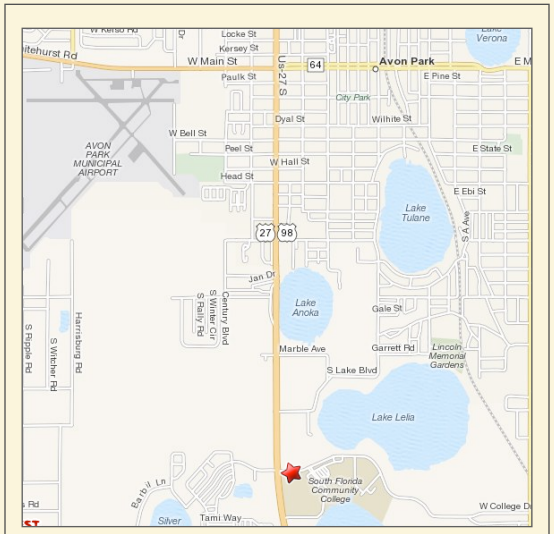
Valent

Silver

FMC

Bronze

Tree Defender



Directions

The South Florida State College is located at 600 West College Drive in Avon Park.

From the South: Take U.S. Hwy. 27/98 north towards Avon Park, turn east onto W. College Drive and follow the signs to the University Center Auditorium.

From the North: Take U.S. Hwy. 27/98 south to Avon Park, continue south to W. College Drive, turn east onto W. College Drive and follow the signs to the University Center Auditorium.

From the East: Take U.S. Hwy. 98 north to where U.S. Hwy. 27/98 merge south of Sebring. Proceed on U.S. Hwy. 27/98 north towards Avon Park, turn east onto W. College Drive and follow the signs to the University Center Auditorium.

From the West: Take S.R. 64 east to Avon Park, turn south on U.S. Highway 27/98 to W. College Drive, turn east onto W. College Drive and follow the signs to the University Center Auditorium.

South Florida State College
University Center Auditorium
600 W. College Drive
Avon Park, FL

Florida Citrus Growers' Institute

Conducted by

University of Florida, IFAS Extension, Citrus Research and Development Foundation

South Florida State College
University Center Auditorium
Avon Park, Florida
April 9, 2024

2024 Florida Citrus Growers' Institute

Program Agenda
Tuesday, April 9, 2024

8:00 AM - Registration

8:25 AM - **Welcome and Introductions**
Mr. Chris Oswalt, CES, Bartow, FL

8:30 AM - **CREC Update** - *Dr. Michael Rogers,* Center Director, UF/IFAS CREC

8:45 AM - **CRDF Program Update** - *Mr. Rick Dantzler,* COO, CRDF

Citrus Pest Management
Moderator: TBD

9:00 AM - **Mind your P's and Q's: The Phytophthora Quandary** - *Dr. Megan Dewdney,* UF/IFAS CREC

9:30 AM - **Developing Management for *Bulimulus bonariensis*, an Emerging Snail Pest in Citrus** - *Dr. Lauren Diepenbrock,* UF/IFAS CREC

10:00 AM - **Sponsor Product Update**

10:10 AM - **Break**

Citrus Horticulture
10:25 AM - **Sponsor Product Update**

10:35 AM - **Update on Trunk Injection** - *Dr. Ute Albrecht,* UF/IFAS SWFREC

11:05 AM - **Irrigation to Improve Health and Productivity of HLB-affected Trees** - *Dr. Tripti Vashisth,* UF/IFAS CREC

11:35 AM - **Optimal Weed Control in Citrus: Latest on Chemical Strategies and Non-Chemical Alternatives** - *Dr. Radmas Kanissery,* UF/IFAS SWFREC

12:05 PM - **Sponsor Product Update**

12:15 PM - **Lunch**

Citrus Horticulture (Con't)
Moderator: TBD

1:15 PM - **Sponsor Product Update**

1:25 PM - **Use of Interstocks for HLB Management** - *Dr. Manjul Dutt,* UF/IFAS CREC

Citrus Nutrient Management
1:55 PM - **UF/IFAS Nutrient Management Renaissance** - *Dr. Tom Obreza,* UF/IFAS Soil, Water & Ecosystem Sciences, Gainesville

2:15 PM - **An Update on Citrus N and BMP Statewide Trials** - *Dr. Davie Kadyampakeni,* UF/IFAS CREC

2:35 PM - **Use of Silicon Fertilizer in Citrus Production** - *Dr. Shahid Muhammad,* UF/IFAS NFREC

2:55 PM - **Program Drawing**

3:00 PM - **Adjourn**

CES: Cooperative Extension Service

COO: Chief Operating Officer

CRDF: Citrus Research and Development Foundation

CREC: Citrus Research & Education Center, Lake Alfred, FL

SWFREC: Southwest Florida Research & Education Center, Immokalee, FL

NFREC: North Florida Research & Education Center, Quincy, FL

UF/IFAS: University of Florida, Institute of Food and Agricultural Sciences

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution.

Florida Citrus Growers' Institute
April 9, 2024

Preregistration is required

Name: _____

Company: _____

Address: _____

City/State/Zip: _____

Phone: _____ Email: _____

Please send registration by April 5, 2024 to:

Joy Spencer, Polk County Extension Service, P.O. Box 9005, Drawer HS03, Bartow, FL 33831

By phone: 863-519-1041, Fax: 863-534-0001, email: j.spencer@ufl.edu or

online at: https://ufl.qualtrics.com/jfe/form/SV_9FunyFfN020fwcC