

Citrus Notes



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 Counties

IMPORTANT DATES

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



MAY 15, 2024
MAY OJ BREAK
 Lake Alfred, FL

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April 2024

2024 Florida Citrus Growers' Institute

We have included the program brochure for this year's 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_9FunyFN020fwcC. Additional registration options (mail, email or phone) are available in the brochure.

May OJ Break



Our May OJ Break, will be held on Wednesday, May 15, 2024. It will begin at 10:00 a.m. at the UF/IFAS

Citrus Research and Education Center. In Lake Alfred. 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.

2024 Hurricane Season Forecast

The first Colorado State University Hurricane forecast for the 2024 season has just been released (4/4/24). The forecast calls for 23 named storms of which 11 are forecasted to become hurricanes and five of those 11 are forecasted to be major hurricanes. Now is the time to dust off you hurricane response plan. Seems this increase is related to much warmer waters this spring in the eastern and central tropical and subtropical Atlantic. This jump start of warmer waters with La Niña conditions forecasted for the peak of this hurricane season are contributing factors.



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WEATHER OUTLOOK

MONTHLY OUTLOOK FOR APRIL 2024 - TEMPERATURE AND PRECIPITATION

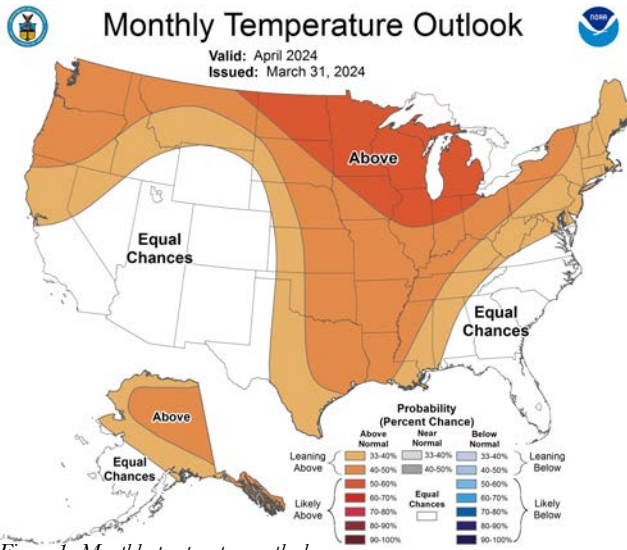


Figure 1. Monthly temperature outlook

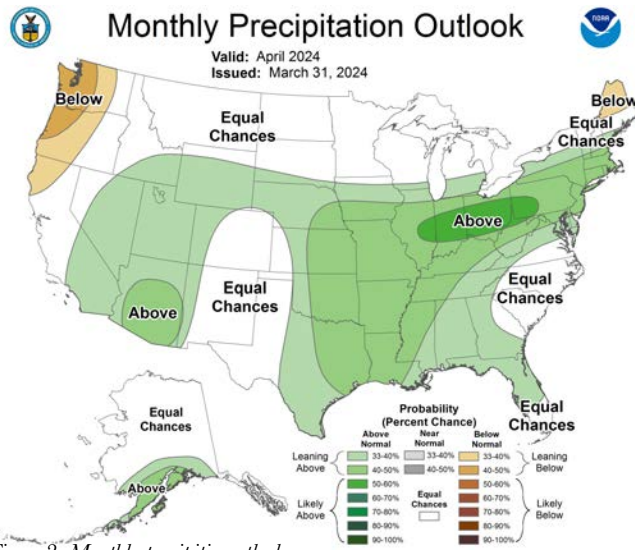


Figure 2. Monthly precipitation outlook

WEATHER OUTLOOK

MONTHLY DROUGHT MONITOR APRIL 2024

U.S. Monthly Drought Outlook Drought Tendency During the Valid Period

Valid for April 2024
Released March 31, 2024

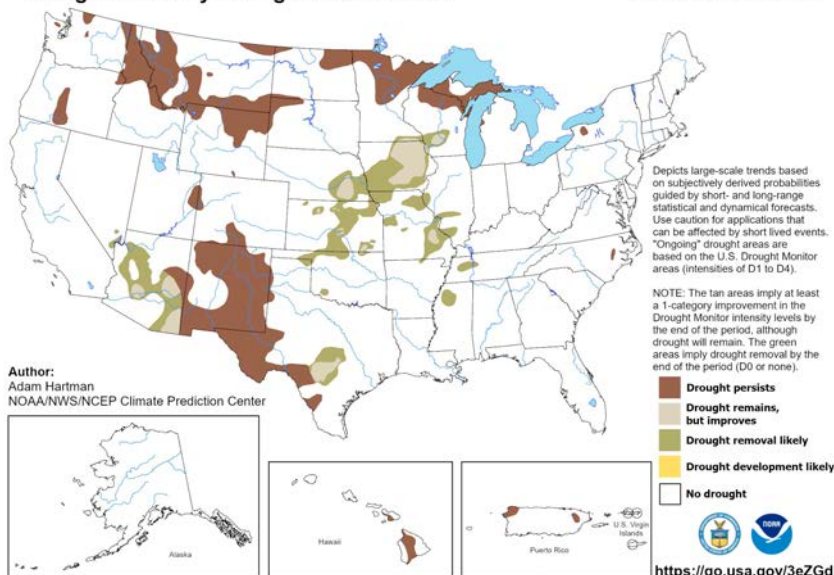


Figure 3. Monthly drought outlook

2024

April Outlook

The National Oceanic and Atmospheric Administration (NOAA) has recently published its latest weather outlook for April, and the outlook for temperature and rainfall is particularly noteworthy. According to the outlook,

we are expecting equal chances for above or below normal temperatures during this period (as indicated in Figure 1).

The rainfall outlook (Figure 2) forecast calling for leaning towards above-normal rainfall (33 to 40% chance).

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 advisory and a La Niña watch. It is forecasted that these El Niño conditions will transition (a 83% probability) into neutral conditions heading into April to June 2024. There is a 62% 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 1.8 to 1.5 indicating the shift to neutral conditions.

In conclusion, the latest NOAA weather outlook for the April 2024 period suggests that we may experience equal chance of above or below temperatures and a leaning towards above-average rainfall. The U.S. Monthly Drought Outlook has no indications of drought conditions for peninsular Florida (depicted in Figure 3).

Developing Site-Specific Nitrogen and Phosphorus Rates for Young and Mature Sweet Oranges, Grapefruits, and Mandarins in Florida

Researchers: Davie Kadyampakeni, Muhammad Shahid, Lorenzo Rossi, Mark Ritenour, Kimberly Morgan, Alan Wright, Kelly Morgan, Mongi Zekri, Chris Oswalt, Danielle Williams

Contact: Davie Kadyampakeni, dkadyampakeni@ufl.edu UF/IFAS CREC

Take Home Message:

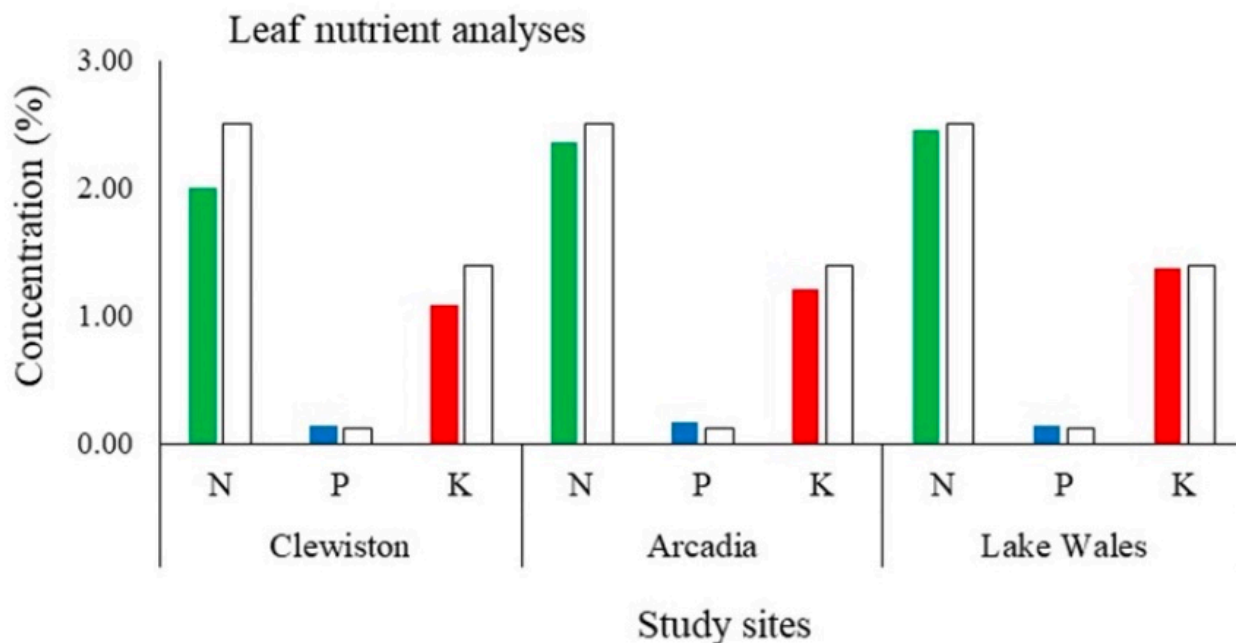
- Our study will develop new rates for applying N for HLB-affected trees.

- We will also identify the best P application rate for HLB- affected trees.
- This study will also develop site-specific recommendations for N and P throughout Florida.

Summary: Current citrus nutrient guidelines are based on studies of healthy citrus trees conducted in the pre-huanglongbing (HLB) era and may no longer be valid for the present situation where 100% of mature citrus trees in Florida are HLB-affected. We propose to conduct research on different nitrogen (N) and phosphorus (P) rates for young/ mature citrus cultivars including sweet oranges, grapefruits, and mandarins. Our project will evaluate 5 rates of N namely 100, 150, 200, 250, and 300 pounds of N per acre per year and 5 rates of P at 0, 10, 20, 40, and 80 pounds of P₂O₅ per

acre per year. These rates will address the objective of evaluating different levels of N and P in identifying the appropriate site-specific rate of N and P for HLB-affected citrus trees using site soil characteristics and production practices to determine if we need to increase or decrease the current guidelines for N (200 lbs/acre) or P₂O₅ (15 lbs/acre). Using conventional and controlled release fertilizer (CRF) fertilization sources, we should be able to develop and provide site-specific N and P guidelines for young and mature citrus trees of sweet oranges in central and southwest Florida, grapefruits in the Indian River district, and Satsuma mandarins in north Florida..

Source: Keeping Florida Citrus Growers Informed. Aug 2023, pg.9. UF/IFAS CREC. Lake Alfred.



Field Trials with the Antimicrobial Peptide SAMP

Researchers: Megan M. Dewdney, Hailing Jin (UCR)

Contact: Megan M. Dewdney, mmdewdney@ufl.edu UF/IFAS CREC

Take Home Message:

- Novel products need good field testing to ensure promising results in greenhouse and laboratories hold up to the harsh field environment.
- Novel products need work on formulation and several years of development to make sure they reach their potential.
- It is important to understand the risks involved in novel product products and that disappointment is common.

Effort Statement: Field trials are continuing but the trees were damaged by the hurricanes, freezing weather, and hail in spring 2023. In the current treatment

format, the SAMP peptide does not appear to have the anticipated protective or curative capacity under field conditions and difficult conditions to which the trees were subjected.

Summary: Public interest has been high concerning the new type of antimicrobial peptide (named stable antimicrobial peptide or SAMP) announced by the University of California, Riverside in 2021. This peptide from the citrus relative, *Microcitrus australiasica*, has been reported to be able to prevent huanglongbing (HLB) or improve infected tree health in very controlled circumstances. Antimicrobial peptides in general are small proteins with features that allow them to kill microorganisms like bacteria, fungi, and some viruses. The ways that these small proteins kill microorganisms can vary, but SAMP appears to poke holes in the outer membrane of the bacterium. The effect would be similar to sticking holes in a rigid balloon, allowing the contents to escape. While SAMP is reported to be effective in very controlled conditions, it is

important to verify if the peptide works in the field. Field conditions are much harsher with challenges such as UV light, rainfall, or microorganisms that could break the peptide into smaller pieces which may affect its effectiveness. We have two early-stage field trials with SAM. The first trial is to look at whether SAMP can protect newly planted trees from HLB. The trees were planted in October 2020. The second trial is focused on whether young HLB- affected trees (4-years-old) can improve their yield, fruit size, and fruit quality after treatment. The peptide is being applied as a foliar application using standard spray equipment along with another application method. Results are still preliminary and are not ready to be reported at this time. New application methods are being explored that will give a continuous dose of the SAMP to the trees to see if that is more protective.

Source: Keeping Florida Citrus Growers Informed. Aug 2023, pg.51. UF/IFAS CREC. Lake Alfred.



Evaluating Huanglongbing-Resistant Hybrids as Interstocks and Rootstocks

Researchers: Manjul Dutt, Ozgur Batuman, Lauren Diepenbrock, Jude Grosser, Nabil Killiny

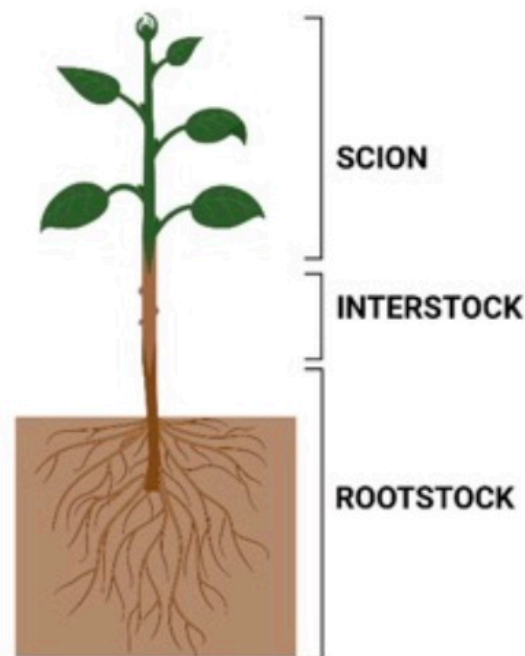
Contact: Manjul Dutt, manjul@ufl.edu UF/IFAS CREC

Take Home Message:

- New generation of rootstocks and scions with Australian lime genetics can be utilized in the fight against HLB.
- Field trials with clonally propagated hybrid lines to be initiated in 2023 to obtain statistically valid data.
- Additional advanced F2 and F3 hybrids with lower Australian lime genetics but tolerant to HLB are also currently being evaluated.

Effort Statement: Several hybrids have been observed to be HLB-tolerant with some that have no CLAs being detected in the phloem.

Summary: A large population of huanglongbing (HLB)-resistant germplasm with Australian lime genetics has been produced at the UF/IFAS Citrus Research and Education Center, mainly through conventional breeding with the HLB-resistant citrus relatives. The core hypothesis behind this study is that HLB-resistant Australian lime hybrids can impart resistance to susceptible citrus scions, so that trees can fight off the CLAs pathogen on their own. Several promising lines have been produced and are being evaluated. We aim to identify the most effective rootstocks with Australian lime genetics for HLB resistance to the scion, assess the impact of interstocks in protecting scions against HLB, and understand the role of metabolites in the HLB resistance process. It may be possible to confer this HLB resistance to the scion using interstocks that are resistant to HLB. Using an interstock may



allow citrus growers to topwork a grove with a new interstock/scion combination, perhaps saving a grove that would otherwise be destroyed. It is anticipated that at the end of this project, citrus growers will be able to utilize our newly developed HLB-tolerant germplasm to keep their groves productive and profitable and reverse the declining citrus acreage.

Source: Keeping Florida Citrus Growers Informed. Aug 2023, pg 65. UF/IFAS CREC. Lake Alfred.

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Chris Oswalt wcoswalt@ufl.edu

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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.

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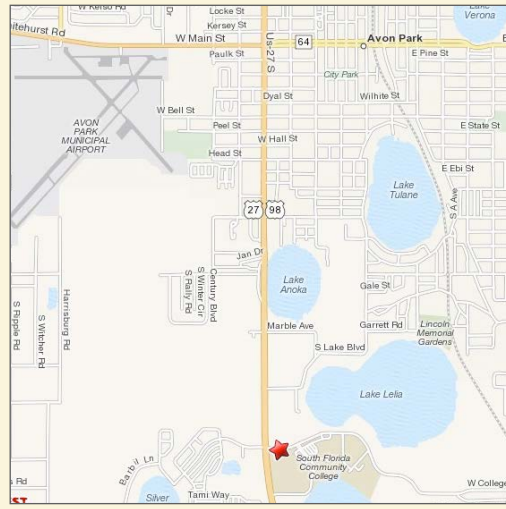
Gowan
Valent

SILVER

Biomimetic Soil Solutions
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: Dr. Mongi Zekri, CES, LaBelle, FL

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 banariensis*, 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. Ramdas Kaniserry, UF/IFAS SWFREC*

12:05 PM - Sponsor Product Update

12:15 PM - Lunch

CITRUS HORTICULTURE (CON'T)

Moderator: Dr. Michael Rogers: UF/IFAS CREC

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. Shabid 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