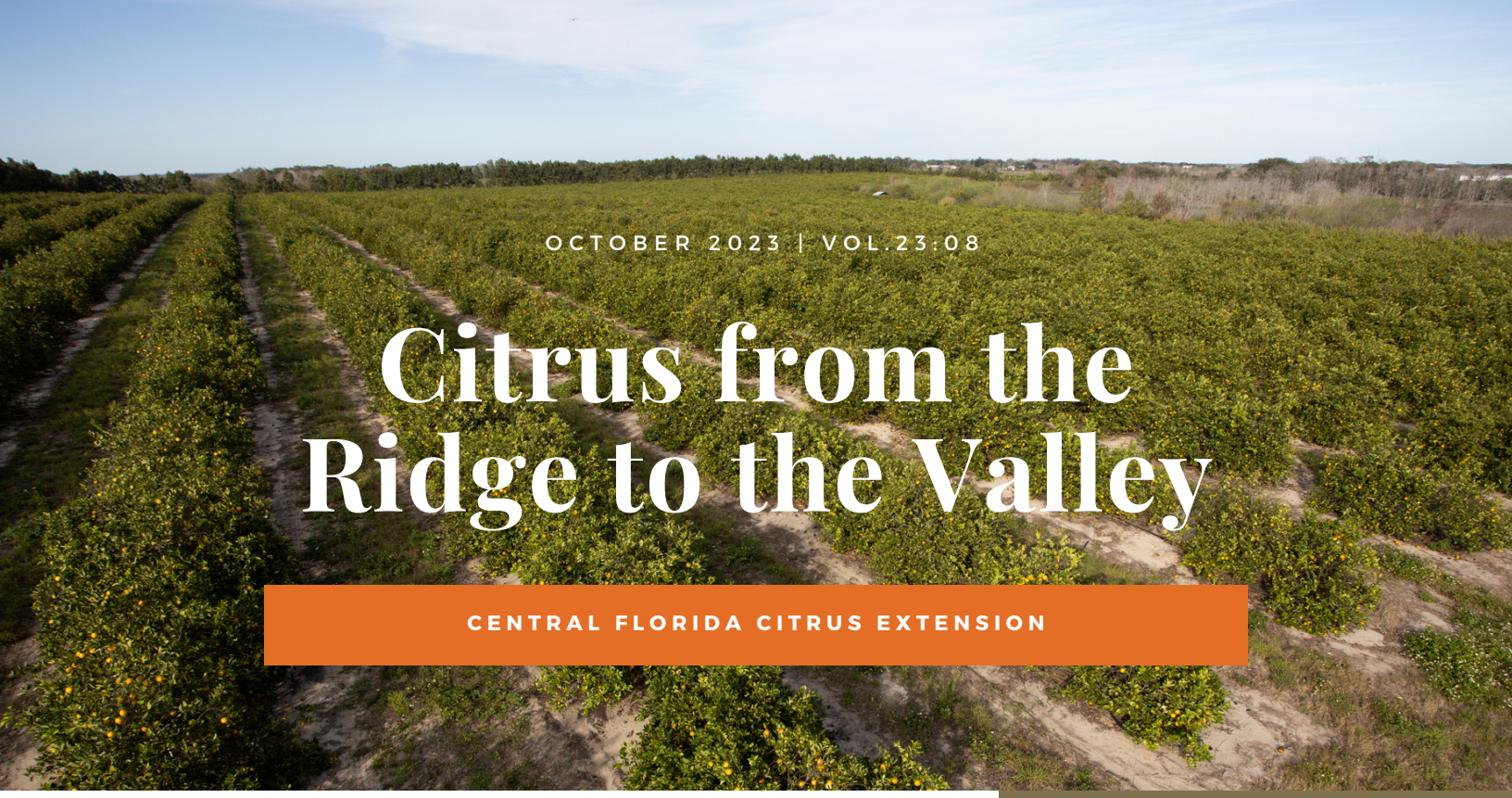

OCTOBER 2023 | VOL.23:08

Citrus from the Ridge to the Valley

CENTRAL FLORIDA CITRUS EXTENSION

October 2023

Well, fall has finally arrived, and I think we are all anticipating this year's USDA citrus crop estimate to be released next week. This information may provide insights into the effectiveness of some of the new HLB management strategies employed this past year. Check out the weather outlook information, as it will give us some idea of what we can expect the winter weather pattern to be this winter.

Several grower meetings are coming up in this month, and the list is as follows:

October 11 UF/IFAS Citrus Breeding Field Day - Gainesville Campus

October 12 Food Safety Training - Wauchula

October 18 Citrus Grower OJ Break meeting followed by UF/IFAS CREC Citrus Breeding grower fruit evaluations - Lake Alfred

Information on registration, CEUs, locations, etc., for these meetings included in this newsletter.

We also have included the Polk County Citrus Employee Safety Training Program and Tractor Rodeo information.

UF | IFAS Extension
UNIVERSITY of FLORIDA

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October 2023
OJ Break

UF | IFAS Extension
UNIVERSITY of FLORIDA

October 18, 2023
10:00 am to 12:00 pm

UF/IFAS Citrus Research & Education Center
BHG Citrus Hall
700 Experiment Station Rd
Lake Alfred, FL

USDA Citrus Breeding Program Update & Citrus Black Spot and Algal Spot Management

Dr. Megan Dewdney from the UF/IFAS Citrus Research and Education Center, and Dr. Matthew Mattia USDA ARS Ft. Piercewill be discussing these important topics.

9:45 am	Check-in, BHG Citrus Hall
10:00 am	Citrus Black Spot, Algal Spot & Citrus Canker Management Updates
11:00 am	USDA ARS Citrus Breeding Program Update
12:00 pm	Lunch - Sponsored by Trey Whitehurst and Harrell's

Pre-registration is required by Friday October 13, 2023 using Eventbrite:

https://ufl.qualtrics.com/jfe/form/SV_2udkiWxCCbbRVKm

Or Contact Joy Spencer to register 863-519-1041

2.0 RUP CEU in Private, Ag Tree, Ag Row, and Demo & Research will be available.
1.0 Pest & 1.0 Crop Management Certified Crop Advisor CEU's will be available.

Upcoming Events

UF/IFAS CREC Citrus Breeding- Lake Alfred

700 Experiment Station Rd., Lake Alfred, FL – Ben Hill Griffin Auditorium

October 18, 2023 1:00 PM After the OJ Break
November 15, 2023 1:00 PM After the OJ Break
December 20, 2023 1:00 PM After the OJ Break (featuring presentations on citrus breeding)
January 23, 2024 1:00 PM
February 21, 2024 1:00 PM After the OJ Break

Attendees will be able to sample a range of varieties and complete survey forms that provide valuable feedback to the CREC Plant Improvement Team.
Members of the Plant Improvement Team (Dr.'s Gmitter, Grosser, Chater, Wang) will be present to answer questions. Due to the heavy focus on orange and orange-like material, juice samples are often provided for displayed selections that may have potential in the juice stream. There are a large number of promising selections identified each year, but the team makes a concerted effort to keep the number of displayed selections to a manageable number.

UF/IFAS Gainesville Citrus Breeding

2801 Hull Rd., Gainesville, FL – Immediately south of the baseball stadium

Date: October 11, 2023 Time: 10:00 AM
(Published as October 12 in the Florida Grower article but changed to avoid a conflict with the Crop Estimate Event).

Dr. Chaparro and his Gainesville team will provide research updates, a variety display and field tour. Surveys are generally provided for the benefit of the breeding effort. This program has shifted significantly to orange and orange-like, but other fresh market fruit types will also be displayed. This is an excellent opportunity to see the on-campus teaching orchard, ongoing research projects and interact with faculty and students.

Lunch will be provided at the conclusion of the event.
RSVP requested by no later than October 6, 2023 to pchaires@flcitruspackers.org

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USDA-ARS Open House, Variety Display and Field Tour

23402 USDA Rd., Groveland, FL

Date: December 8, 2023 Time: 10:00 AM

Attendees will have an opportunity to sample fruit from promising USDA-ARS citrus selections. Though fruit for potential use in the orange juice stream is primary, other fruit types for possible fresh market use will also be displayed. Surveys are generally collected to help inform release decisions. Members of the USDA-ARS research team, farm staff, administration and Foundation will be present to answer questions.
The event also features a Hayride tour of the farm, with research updates at designated stops. This is the only such opportunity during the year. Significant infrastructure projects have been underway at the farm (with the support of Florida Citrus Mutual, Florida Department of Citrus, Florida Citrus Commission, and the Florida Legislature). New research plantings will be in the ground by that time.
Finally, Florida Citrus Mutual is sponsoring a lunch at the conclusion of the event. This is always a highlight.
RSVP requested by no later than December 4, 2023 to Lucy.Torres@ffva.com

2023 FALL WEATHER OUTLOOK

BY CHRIS OSWALT

The National Oceanic and Atmospheric Administration (NOAA) has recently published its latest weather outlook for the July/Aug/Sept, and the outlook for temperature and rainfall is particularly noteworthy. According to the outlook, there is a higher probability of above-normal temperatures during this period (as indicated in figure 1). This means that we may expect to experience warmer temperatures compared to what is typically seen during the September/October/November.

The outlook for rainfall (depicted in figure 2) also presents a different picture, with a leaning to above-normal rainfall. This suggests that we may receive about normal amounts of rainfall that would be typical for September/October/November.

The El Nino Southern Oscillation (ENSO) forecast also plays a crucial role in shaping the weather outlook for this period. Currently we are under strongly building El Niño conditions. The forecast is for existing El Niño conditions to gradually strengthen into the winter of 2023-24. It is anticipated that these El Niño conditions will continue (with a 95%) through January through March 2024. In this situation we should be looking for cooler daily temperatures, due to increased cloudiness associated with the increase in rainfall expected during winter El Niño conditions.

In conclusion, the latest NOAA weather outlook for the September to December 2023 period suggests that we may experience warmer temperatures and above rainfall than what is typical for the period although the U.S. Monthly Drought Outlook has dry conditions abating for peninsular Florida for the September to December time period.

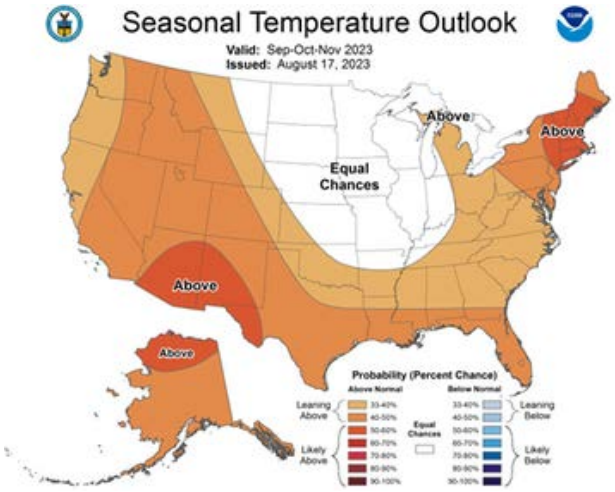


Figure 1 Fall 2023 temperature outlook

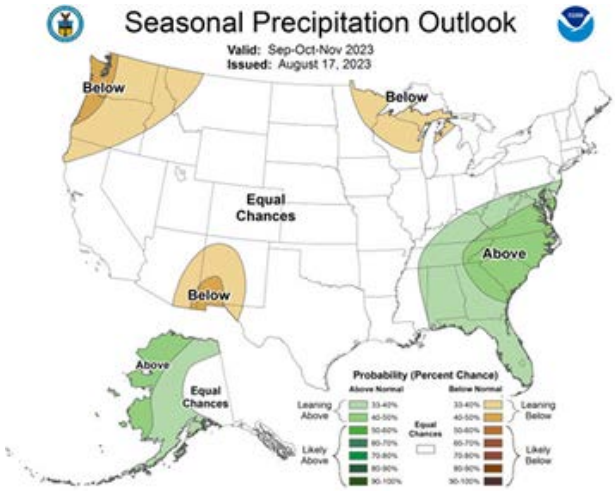


Figure 2 Fall 2023 precipitation outlook

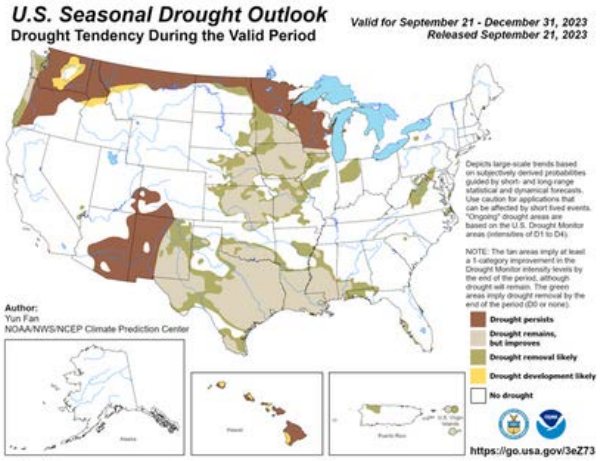


Figure 3 Fall 2023 drought outlook

Finding Phyllosticta citricarpa when Citrus Black Spot Cannot be Seen

Researchers: Thomas F. Burks, Megan M. Dewdney
Contact: Thomas F. Burks, tburks@ufl.edu, UF/IFAS Gainesville

Take Home Message:

•The fungus that causes citrus black spot can spread silently in a grove before disease detection.
•Movement of the disease can occur without anyone's knowledge through infected plant material.
•Hyperspectral imaging may help detect the asymptomatic infections in young leaves

Photo by Tonya Weeks, UF/IFAS CREC

Summary: Citrus black spot (CBS) is a quarantinable fungal disease caused by Phyllosticta citricarpa. It was first discovered in Florida in 2010 in a grove near Immokalee. The disease has spread from the initial location through the southwestern citrus production region and Polk County. A new location was identified in Polk County in 2023. One of the challenges with CBS is detecting low levels of infection or early infection. The disease is mostly asymptomatic in leaves and fruit mostly become symptomatic once ripening. Since CBS is a regulated disease, the inadvertent movement of the fungus on plant material is concerning. We are investigating hyperspectral imaging tools to see if the fungus can be detected on and within immature fully expanded leaves. There are two challenges, first, a very common second Phyllosticta spp. fungus that harmlessly infects leaves naturally in Florida may confuse the results of any detection not based on PCR and secondly, once the P. citricarpa infects the leaf and becomes embedded as a tiny fungal ball, it is not known when the fungus grows within the leaf extensively. We conducted two experiments where multiple concentrations of spores of both the pathogen and the harmless colonizer were visualized on the leaf surfaces. We have also collected leaves from a grove with a known CBS problem and conducted qPCR to identify which leaves are infected. Imaging was done with the leaves to match the PCR data. The image analysis is ongoing for the hyperspectral results but are expected very soon.

Source: Keeping Florida Citrus Growers Informed. Aug 2023, pg. 48. UF/IFAS CREC. Lake Alfred.

Multiple Non-transgenic CRISPR Gene Editing Tools are Joining the Force to Fight Huanglongbing

Researchers:
Nian Wang, Jude Grosser, Choaa El-Mohtar, Zhengfei Guan, Davie Kadyampakeni, Chris Oswalt, Tripti Vashisth, Yu Wang

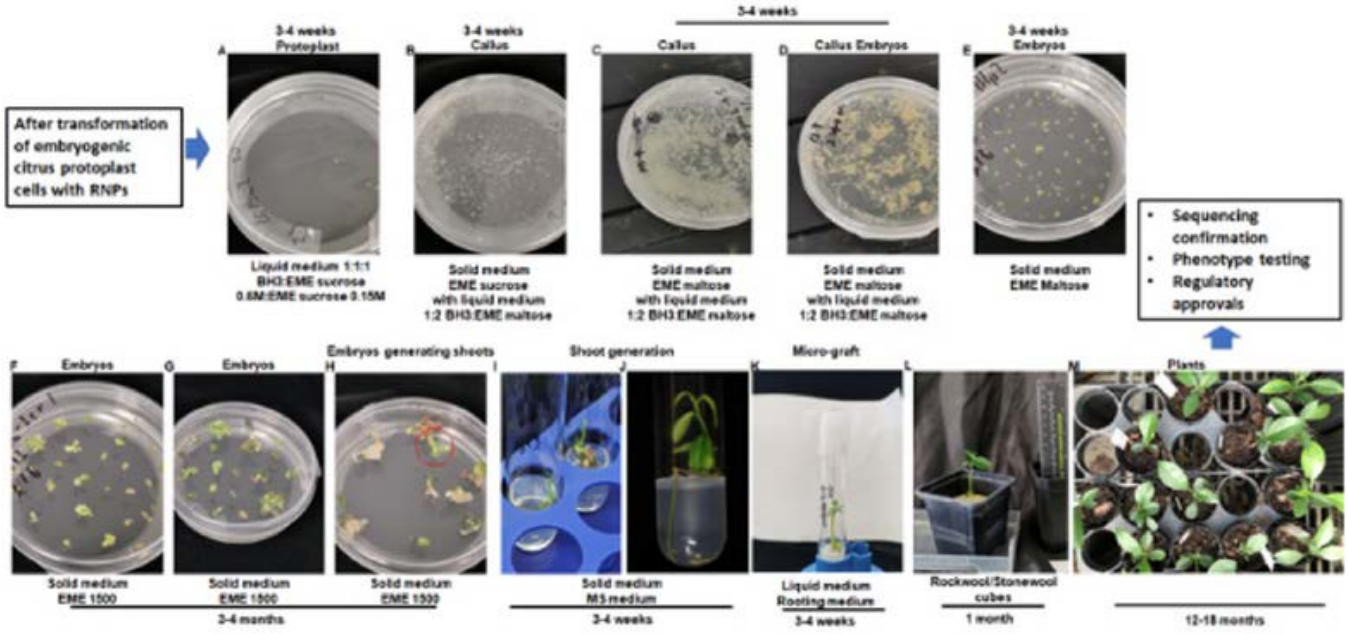
Contact: Nian Wang, nianwang@ufl.edu, UF/IFAS CREC

Take Home Message:

• The transgene-free canker resistant 'Hamlin' plants have been approved by USDA-APHIS and are in the process of further evaluation and commercialization.
• We have developed multiple transgene-free genome editing toolkits using the CRISPR technology.
• We are conducting non-transgenic citrus genome editing to reduce the systemic and chronic immune response, and to increase antioxidant enzyme activities.

Summary: CRISPR gene editing has been used to generate multiple canker resistant citrus gene- edited Sweet orange cv. 'Hamlin' via editing the elements in the promoter region and coding region of the canker susceptibility gene CsLOB1, demonstrating its power in generating disease-resistant citrus. The transgene-free canker- resistant 'Hamlin' plants have been approved by USDA-APHIS and are in the process of further evaluation and commercialization. Importantly, we have developed multiple transgene-free genome editing toolkits using the CRISPR technology. Among them, one is based on the ribonucleoprotein, and another is based on a co-editing strategy. The toolkits are highly efficient. Our previous studies also showed that the HLB pathogen stimulates a systemic and chronic immune response in citrus phloem including reactive oxygen species (ROS) production and callose deposition, which causes systemic phloem cell death and subsequent HLB disease symptoms. We are conducting non-transgenic citrus genome editing to reduce the systemic and chronic immune response, and to increase antioxidant enzyme activities. Non-transgenic gene-editing technology for sweet orange is mature now and non- transgenic HLB-resistant lines have a much simpler and easier path for regulatory approval, thus accelerating their potential commercialization.

Source: Keeping Florida Citrus Growers Informed. Aug 2023, pg. 60. UF/IFAS CREC. Lake Alfred.



CITRUS SAFETY TRAINING AND TRACTOR RODEO

Nov. 2, 2023

TOPICS WILL INCLUDE

- Ag Crimes
- First Aid
- Tractor and Equipment Safety
- Food Safety Training
- WPS Handler Training
- Basic Pesticide Safety Training
- Decontamination Procedures

UF IFAS Extension UNIVERSITY of FLORIDA

POLK COUNTY

ANNUAL CITRUS EMPLOYEE SAFETY TRAINING

UF/IFAS Extension Polk County invites you and your employees to attend the 2023 Polk County Citrus Safety Training Program. This program is designed to help growers with regulatory compliance by providing annual safety training for their employees.

Pre-registration is required. Completed registration forms are due in the Extension Office no later than Friday, October 27, 2023.

ENGLISH AND SPANISH SESSIONS AVAILABLE!

Registration begins at 7:30 a.m.
Program begins at 8:00 a.m.

TRACTOR RODEO COMPETITIONS

The **Sprayer Operator Competition** will test precision, safety awareness, and attention to detail required for safe pesticide applications using a tractor with a sprayer.

The **Herbicide Operator Competition** will test for the above mentioned skills on a tractor with a boom sprayer.

In the **Fertilizer Spread-Off**, operators will simulate fertilizer applications to resets scattered randomly through a grove. The operator will be provided with an all-terrain utility vehicle (ATV), bucket of simulated fertilizer, and cups to apply the fertilizer. Judging will be based on precision of the fertilizer application, time, and vehicle operation skills.

For more information about any competition, contact Chris Oswalt at **(863) 519-1052**.

UF/IFAS Extension Polk County Agricultural Center
Stuart Conference Center
1710 Highway 17-98 South, Bartow, FL 33830

CITRUS WORKER SAFETY TRAINING PROGRAM REGISTRATION

This registration and a fee of $15 per person, which includes lunch, are due by Friday, October 27, 2023

SAFETY TRAINING PROGRAM (PLEASE PRINT PARTICIPANT'S NAMES)	ENGLISH	SPANISH
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

TRACTOR RODEO COMPETITION REGISTRATION

ANNUAL TRACTOR RODEO RULES

To compete in the team competition, the completed pre-registration form must be received in the Extension Office. All participants will compete as individuals for the events they enter.

NAME Please list multiple individuals below	SPRAYER OPERATOR	HERBICIDE OPERATOR	FERTILIZER SPREAD-OFF

Contact Name: _____ **Phone Number:** _____

Company Name and Address: _____

Please mail this form with your check made payable to: Polk County Citrus Advisory Committee
Joy Spencer, UF/IFAS Extension Polk County
PO Box 9005, Drawer HS03, Bartow, Florida 33831-9005

Food Safety Event Calendar

Fall + Winter 2023

UF | IFAS Extension
UNIVERSITY of FLORIDA

In-Person

Produce Safety Alliance Grower Training

A one-day course for produce growers and packers who fall under FSMAs Produce Safety Rule.

- **September 27th, 2023 – Homestead:** https://psa092723.eventbrite.com
- **October 12th, 2023 – Wauchula:** https://101223.eventbrite.com
- **November 15th, 2023 – Palatka:** https://psa111523.eventbrite.com
- **November 30th, 2023 – Immokalee:** https://psa113023.eventbrite.com
- **January 17th, 2024 – Quincy:** https://psa011724.eventbrite.com

Remote

Produce Safety Alliance Grower Training

A three-day, three-hour virtual course for fruit and vegetable growers and packers who fall under FSMAs Produce Safety Rule.

- **August 15-17, 2023:** https://psa081523.eventbrite.com
  (Out of State): https://psaoos081523.eventbrite.com
- **September 5-7, 2023:** https://psa090523.eventbrite.com
  (Out of State): https://psaoos090523.eventbrite.com
- **December 12-14, 2023:** https://psa121223.eventbrite.com
  (Out of State): https://psaoos121223.eventbrite.com

Signup for an On-Farm Readiness Review

A free educational opportunity intended to prepare growers for FSMA Produce Safety Rule inspection. Participants must have taken a Produce Safety Alliance Grower Training.

To sign up for an On-Farm Readiness Review, visit: www.fdacs.gov/ofrr

Remote

HACCP for Florida Fresh Fruit & Vegetable Packinghouses

A four-day virtual course focuses on HACCP principles for fruit and vegetable packinghouses.

- **August 28th-31st, 2024**

  https://haccp082823.eventbrite.com

  Email: taylorlangford@ufl.edu

For registration questions, contact sarahmccoy@ufl.edu
For general food safety questions, contact taylorlangford@ufl.edu

Syngenta Citrus Internships- Summer 2024

Company Overview

Syngenta is a leading agriculture company helping to improve global food security by enabling millions of farmers to make better use of available resources. Through world class science and innovative crop solutions, our 28,000 people in over 90 countries are working to transform how crops are grown. We are committed to rescuing land from degradation, enhancing biodiversity and revitalizing rural communities. There's never been a more important time to join Syngenta.

Program Overview

When you are a citrus intern with Syngenta, you will gain hands-on experience in the ag industry. This is a paid internship that also provides a vehicle for work use. You will be assigned to a mentor and a territory for your summer project. You will gain experience with territory management along with pest and disease identification. The internship presents opportunities to gain sales and marketing experience, exposure to the citrus industry, as well as opportunities within Syngenta Crop Protection.

Intern Focus

- Pest scouting support (miticides/insecticides)
  - Minecto Pro, Voliam Flexi, Agri-Flex, & Agri-Mek
- Soil sampling support (fungicides)
  - Ridomil & Orondis

Qualifications

- Seeking future employment in the Florida Agriculture Industry.
- Basic familiarity with production agriculture.
- Basic familiarity with pest, disease, and weed control.
- Basic computer skills.
- Willingness to work outdoors.
- Self motivated, detail oriented, honest, and personable.
- Ability to relocate to or originally from one of the following counties; Polk, Highlands, Hardee, Desoto, Hendry, Collier, Lee, Okeechobee, Martin, Osceola, St. Lucie, or Indian River.
- Sophomore or Junior level (Seniors will be considered).
- Satisfactory results of a pre-employment background check, drug test, and driving record evaluation.

syngenta

Please submit your application and resume by Nov 1st 2023

Zach Langford
Florida Citrus Internship Coordinator
Syngenta Retail Rep
407-212-5631
zach.langford@syngenta.com

Chad Warrick
Syngenta Retail Rep
830-832-5269
chad.warrick@syngenta.com

Follow QR Code or link to apply: https://www.surveymonkey.com/r/SyngentaCitrusIntern

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