# Connection is

HIGHLANDS COUNTY CITRUS GROWERS

# **President's Column by Bert Harris**

Aaron Nelson well served our Association as Board President. He brought to the table a depth of citrus production wisdom. Our members are fortunate to have his continued service to our Association for another year. Thank you, Brother Nelson!

We also thank Justin Hood for his service as member of our Board. Justin is now an alumni. Over the years he contributed significant time, talent, and expertise to our membership.

Please join me in welcoming a new member in Gabe Smoak to the Board. We look forward to the fresh young perspective that he will bring to our Association.

Our membership has been well represented by the many who have led the Association in the past. Their savings will allow us to continue operations through these challenging times as the industry evolves.

Ray Royce remains the primary asset purchased by your Membership dues. His continues the mission adopted by the founders of our Association thirty-four years ago. Ray remains well connected and informed in our industry, as well as our municipal, county, state and federal governments.

He works to protect our property values and rights, to obtain the most favorable property tax treatments, to assure that our members are aware of all government assistance programs, and to guide our Board through the current political climate.

FEB 2024

- Dry Season Irrigation
- USDA Crop Forecast
- FL Citrus Show
- HCCGA Membership Dues
- HCCGA Golf Day
- HCCGA Annual Meeting
- Citrus Achievement Awards Nom.
- Plant Growth Regulators
- Citrus Conference
- Miss Florida Citrus
- FL Citrus Growers Institute
- HCCGA Citrus Connection Adv.
- CRISPR
- Highlands Youth Citrus Proj.

My intent is to protect Ray's time and to empower him to continue his history of service to our members. Ray, I feel confident saying that our members appreciate your work!

Our association will continue to be fully engaged on everything that impacts the Highlands County citrus--including assistance to members as they transition citrus properties to other uses—hopefully temporarily. Please know that our mission includes assisting you as a property owner – whether active or inactive in citrus production.

At our recent annual meeting, many of you were able to hear from those charged with leading the research efforts for our industry. They shared encouragement. We will continue to push for a sense of urgency in their research!

We look forward to serving you!

Bert Harris III



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> www.hccga.com admin@hccga.com

### **BOARD OF DIRECTORS**

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Ray Royce, Executive Director Jan Menges, Administrative Assistant

### **2024 Calendar of Events**

#### April 3

Florida Citrus Show @ UF Indian River REC in Ft. Pierce

#### April 9

Florida Citrus Growers' Institute @ SFSC in Avon Park

#### April 25

HCCGA Golf Day @ Sun 'N Lake Golf Club in Sebring

#### June 12-14

Annual Citrus Conference @ Bonita Springs

#### **August 21-22**

Citrus Expo @ Florida State Fairgrounds in Tampa

#### December 14

**HCCGA Citrus Fun Shoot** 



For additional information about any of these meetings or events, contact Ray or Jan at the HCCGA office



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# Executive Director & Report BYRAYROYCE

Thank you to all of the sponsors who made our recent 34<sup>th</sup> HCCGA Annual Meeting possible. I believe that our Association members, their guests and other invited dignitaries who were there enjoyed an evening of great fellowship, and perhaps even learned a little bit from our guest speakers. Thank you to Dr. Charlie Messina, Aaron Himrod, Morgan Porter and Matt Joyner for investing some of their time with our folks, and updating them on a wide range of citrus research issues affecting our industry.

The **Florida Citrus Show** will take place on Wednesday, April 3<sup>rd</sup> in Ft. Pierce. This AgNet Media event incorporates industry vendors, educational sessions and a fun tailgate party. So check out the info about it in this month's newsletter.



On Tuesday, April 9th, the **Annual Citrus Growers Institute** will be held at South Florida State College in Avon Park. The agenda for that program is in this newsletter.

Your Association's **2024 Golf Day**, which is sponsored by our good friends at **Heartland National Bank**, is coming up soon on Thursday, April 25<sup>th</sup> at the **SUN 'N LAKE Golf Club** in Sebring. We will have a great lunch prior to play, plenty of liquid refreshments on the course and some hors d'oeuvres afterwards while we celebrate the award winners and give away the raffle prizes – so no one should go home hungry or thirsty!

So if you are a golfer, please make plans to join us for a great afternoon of outdoor fun and fellowship. There is a registration flier in this month's newsletter, or give us a call at the office if you have any questions, or would like to help by sponsoring a hole contest or some of the event's raffle drawing prizes.

The **2024 Annual Citrus Conference** in Bonita Springs will take place on June 12<sup>th</sup> - 14<sup>th</sup>. Now is the time to make hotel room reservations and get pre-registered with Florida Citrus Mutual if you want to participate this great industry gathering this year.

**Citrus Expo 2024** is scheduled for August 21<sup>st</sup> and 22<sup>nd</sup> at the Florida State Fairgrounds in Tampa. The planning for Expo's educational seminars is now underway, with your Association helping in that regard. These sessions are put on solely for the growers' benefit, so please weigh in with me on what type of information you are seeking and/or which speakers you are most interested in hearing from.

These newsletters, and some other operations of the Association, are possible due to a large extent by those companies that advertise in the newsletter. I say that for two reasons – one to say thank you to those companies that are making an investment in our Association and secondly, if you would like to advertise in the newsletter there is information in this issue on how to do so. If you have any questions about this, don't hesitate in contacting either Jan or I.

I want to remind everyone that the Association is utilizing its social media presence more and more through Facebook, Twitter and our blog. Please take advantage of these venues in order to keep up to date on a wide range of topics associated with citrus and agriculture in Florida. Please also encourage your friends and neighbors to follow us on these sites – we are trying to expand our reach and communicate the good stories that our industry has to share. And finally, if you have some content you would like to see get some social media coverage – get it to me.

Speaking of social media, I would encourage our members to start thinking about how you might want to do something on social media, or elsewhere, on May 4<sup>th</sup> for **National OJ Day**. Take an active role in helping promote our wonderful product.

Our goal is to keep our members as informed as possible on a wide range of issues, so please never hesitate in contacting me day or night (cell phone: 863-381-8551) for additional information if you need it; or if I can be of any assistance on any matter, large or small.

Thanks, Ray

# Info Notes

# 2023-2024 Florida Minimum Wage

Just a reminder that the third increase dictated by the 2020 constitutional amendment, raised Florida's minimum wage rate to \$12 an hour on September 30<sup>th</sup>. The voter-approved amendment will gradually lead to a \$15-an-hour minimum wage on September 30, 2026.

### **2023 Citrus Expo Presentations**

The educational seminars at the 2023 Citrus Expo are now available online at: https://crec.ifas.ufl.edu/citrus-research/presentations/citrus-expo-2023/.

# 2023-2024 Florida Citrus Production Guides

The 2023-2024 Florida Citrus Production Guides are available to pick up at the UF/IFAS Highlands County Extension office or the handbooks are available online (with printable sections) at:

https://crec.ifas.ufl.edu/resources/production-guide/.

# **2023 Florida Citrus Growers' Institute Presentations Online**

The 2023 Florida Citrus Growers' Institute was held on April 4th at the South Florida State College Avon Park campus. The educational presentations were recorded and are available online at the citrus agent's website: Here you will also find PDF versions of the slides.

https://citrusagents.ifas.ufl.edu/archived-presentations/2023/

### **UF/IFAS Podcasts for Growers**

UF/IFAS and Southeast AgNet have partnered to provide the latest news on citrus-related research in a monthly "All in for Citrus" podcast. The podcasts feature short interviews with scientists working to find solutions to citrus greening and other devastating citrus diseases. The podcast complements the new research update website and citrus newsletter at: http://citrusresearch.ifas.ufl.edu/newsletter-sign-up/. Podcasts may be downloaded to your mobile phone, tablet or computer to be listened to at your convenience.

# "Florida OJ Break" License Tags

The HCCGA office has a very good supply of the "Take A Florida Orange Juice Break" license plates to share. Please feel free to stop by the HCCGA office and get one for your vehicles. We also have a limited supply of a few other types of OJ related tags.

# Sales Tax Exemption Forms for Ag Uses

Florida Farm Bureau has a very informative page on their website that lists a number of potential agriculturally related items that may be exempt from sales tax. It also contains a recommended exemption form to be utilized. It can be found at: <a href="https://www.floridafarmbureau.org/agricultural-sales-tax-exemptions-in-florida/">https://www.floridafarmbureau.org/agricultural-sales-tax-exemptions-in-florida/</a>

### **UF/IFAS** Research Website

The updated Citrus Research and Education Center (CREC) website at <a href="https://crec.ifas.ufl.edu/citrus-research">https://crec.ifas.ufl.edu/citrus-research</a> is now live. The revamped site has the latest research information on HLB management, detailed information on rootstock trials, access to on-line presentations from UF/IFAS research scientists, EDIS documents sorted by topic for easy access, and more.

### **UF/IFAS OJ Break Programs**

The central Florida UF/IFAS citrus extension agents are providing an OJ Break Grower meeting series in a twice monthly virtual program format. Upon registration you will be sent a Zoom link for each meeting. To see the upcoming meeting topics and register for the Zoom notice – go to: https://citrusagents.ifas.ufl.edu/oj-break/.

### **Restricted Use Pesticide Exams**

Restricted Use Pesticide exams are done using laptops at most UF/IFAS county Extension offices. Whether you are taking the test for the first time, renewing your license, or adding a new category, you can take your exam at most county Extension offices. In Highlands County, the Extension office is scheduling exams for Wednesdays and Fridays. You can schedule your exam online at <a href="https://pesticideexam.ifas.ufl.edu/public/countyList.faces">https://pesticideexam.ifas.ufl.edu/public/countyList.faces</a>.

### **FDOC Webinars**

The Florida Department of Citrus hosts monthly webinars in order to provide key information on various topics important to the Florida Citrus industry. To receive notifications on webinars and other topics, please e-mail <code>news@citrus.myflorida.com</code> and ask to be added to FDOC's email distribution list.



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# **Dry Season Irrigation to Increase Yield of HLB Trees**

By Tripti Vashisth and Mary Sutton

Prolonged water deficits can negatively impact flowering, fruit growth, crop load and fruit quality. Unfortunately, HLB-affected trees are more susceptible to water deficits than healthy trees due to extensive root loss. Observing HLB-affected trees throughout the dry season showed that severely symptomatic trees consistently had lower leaf water potential than mildly symptomatic trees. This suggests HLB-affected trees experience more water deficits as the disease progresses. For this reason, adequate irrigation during the dry season is imperative in preventing drought stress.

This is particularly true for the sweet orange variety Valencia because flowering and fruit maturation periods overlap with the dry season. Researchers hypothesized that more frequent but smaller applications of water would better support the water needs of HLB-affected trees throughout the year. In an experiment, irrigation on control trees ran every other day for two hours (grower standard). Irrigation on the experimental trees ran three times every day for 20 minutes at a time. Both sets of trees received the same amount of water over time, but the experimental trees received water more often and in smaller amounts.

Trees receiving the frequent irrigation consistently had higher soil moisture content and midafternoon leaf water potential. This suggests the experimental trees were being maintained at a more well-watered state. The experimental trees also had significantly higher bud, fruitlet and leaf production during the spring flush. In fact, in 2023, the control trees saw a drought-stress-induced flowering event in late May that was not observed in the experimental trees. This all culminated in higher yields (more than double) at harvest over the two-year course of the study.

Tripti Vashisth is an associate professor, and Mary Sutton is a Ph.D. student, both at the UF/IFAS CREC in Lake Alfred.



# USDA Citrus Crop Forecast Update

March 8, 2024

### All Oranges 19.8 Million Boxes

The 2023-2024 Florida all orange forecast released on March 8th by the USDA Agricultural Statistics Board is 19.8 million boxes, unchanged from the February forecast. If realized, this will be 25 percent more than last season's final production. The forecast consists of 6.80 million boxes of non-Valencia oranges (early, mid-season, and Navel varieties) and 13.0 million boxes of Valencia oranges.

### Non-Valencia Oranges 6.80 Million Boxes

The forecast of non-Valencia production is unchanged at 6.80 million boxes. The Row Count survey conducted February 26-27, 2024, showed 98 percent of the early and mid-season non-Valencia rows, excluding Navels, are harvested. The Navel forecast, included in the non-Valencia portion of the forecast is 200,000 boxes.

### Valencia Oranges 13.0 Million Boxes

The forecast of Valencia production is unchanged from the February forecast at 13.0 million boxes. Current fruit size is below average and is projected to be below average at harvest, requiring 260 pieces to fill a 90-pound box. Current droppage is above average and projected to be above average at harvest. Harvest of Valencia oranges is still in the early stages.

### All Grapefruit 2.20 Million Boxes

The forecast of all grapefruit production is decreased 200,000 from February to 2.20 million boxes. The red grapefruit forecast is lowered 200,000 to 1.90 million boxes. The white grapefruit forecast is unchanged at 300,000 boxes. The Row Count survey conducted February 26-27, 2024, indicated 84 percent of grapefruit rows are harvested.

### Tangerines and Tangelos 500,000 Boxes

The forecast for tangerines and tangelos is lowered 50,000 from the February forecast and is now 500,000 boxes, 4 percent more than last season's utilization of 480,000 boxes. This forecast number includes all certified tangerine and tangelo varieties.







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### Florida Citrus Show

The Florida Citrus Show is fast approaching, scheduled for April 3rd in Fort Pierce, Florida. The event will be held at the University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) Indian River Research and Education Center and U.S. Department of Agriculture (USDA)

Horticultural Laboratory.

It will be a busy day packed with educational programming for citrus and specialty crop growers and a fun tail-gate style lunch break. During the lunch break, trade show exhibitors will serve up a wide array of food and treats, just like at your favorite sporting event. In addition, there will be a competition where attendees can vote on the best exhibitor food. A drawing will be held after lunch and one lucky attendee who voted will win \$500. The winning exhibitor will also take home a prize.



#### **Educational Sessions**

The morning session will address numerous topics important to all of agriculture. Mike Joyner, president of the Florida Fruit & Vegetable Association (FFVA), will talk about important policy issues, including the farm bill. FFVA's Mike Aerts will be speaking on how the Endangered Species Act (ESA) could impact future registrations and re-registrations of important pesticides. The ESA has already been used to knock down the use of two active ingredients specific to citrus. Aerts will provide an update on this important issue and inform growers and other attendees how they can get involved and speak out on behalf of ag interests as this process evolves.

After lunch, breakout sessions will focus on citrus and specialty crop production. The citrus seminar will feature a panel discussion of leading citrus breeders from UF/IFAS and USDA. Other presentations will focus on HLB management and more. The session will conclude with a great grower panel discussion. It will feature Timothee Salin, George Hamner Jr., Matt Machata and Pat Schirard.

To learn more about the Florida Citrus Show and to register online, visit: www.citrusindustry.net/florida-citrus-show-attend.

## **HCCGA Membership Dues**

All HCCGA members should have received their 2024 membership dues renewal statements in the mail in mid-December. We have already received renewal dues payment from almost all of our members, however if you did not receive your renewal invoice, or have questions about your membership; please contact the HCCGA office at (863) 385-8091 at your earliest convenience.

Both Grower and Associate dues for 2024 remained the same as previous years (as a *matter of fact, they are the same as they were when HCCGA was founded in 1990*). Grower dues are \$2.00 per acre with a minimum of \$100.00 and a maximum of \$2,000.00 and Associate dues are only \$100.00 per year.

Prudent budgeting by your HCCGA Board of Directors, nearly 100% membership renewal from year to year and additional support of several Association social and fundraising events through the year have allowed your Association to keep the dues at this low level for the past 34 plus years.

Thank you again for your membership and support in the past, and we look forward to working on your behalf in 2024.

# 2024 HCCGA Golf Day

The 2024 Highlands County Citrus Growers Association's Annual Golf Day, presented by **Heartland National Bank** has been scheduled for the afternoon of **Thursday, April 25<sup>th</sup>** this year, at the **SUN 'N LAKE Golf Club** in Sebring. Make plans to join us for a fun day on the golf course by utilizing the registration flier in this newsletter to get signed up!

A 12:00 PM luncheon and sign-in will precede the 1:00 PM tee off. Lunch, range balls, on-course water-soda-beer, post tournament hors d'oeuvres and a raffle drawing prize ticket will be included in each golfing entry. The cost will be \$100.00 per player (\$400.00 per foursome), and the tournament is open to the public. A four-player team scramble format will be used in the tournament, and there will be a number of hole contests to compete with others in your handicap class for in addition to gift certificate prizes for the top 3 teams in each of the three flights.

We also have some contest sponsorships available at \$150.00 each if you would like to get your company some great recognition both at the event and in our monthly newsletter. Just give Ray or Jan a call at the HCCGA office for more info.

Registration form on page 9. Sign up today!

### Start each day the citrus way!





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### Sun 'N Lake Golf Club

Sebring
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1:00 Shotgun Start



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Player #2	
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Player #4	

**Luncheon & Post Tournament Hors D'oeuvres Complimentary Water, Soft Drinks & Beer on Course** 

### 2024 HCCGA Annual Meeting

The 34<sup>th</sup> Annual Meeting of the Highlands County Citrus Growers Association was held at the Seven - Sebring Raceway Hotel on the evening of Thursday, March 7<sup>th</sup> with the dinner, business meeting and educational program following a social hour.

During the dinner program, the Association heard from guest speakers about the state of our industry, elected new Board of Directors members, heard reports from Association officers, installed the Board Officers for 2024 and recognize the major sponsors of our 2023 Golf Tournament and Sporting Clays Fun Shoot fundraisers.

Our Keynote Speaker this year was **Dr. Charlie Messina** who is heading up the new University of Florida **Crop Transformation Center (CTC).** I know that our members and their guests were very interested in learning what Dr. Messina has planned for the Center, and equally importantly how quickly they have gotten under way and adopted a very aggressive timeline for the utilization of a wide array of biotech tools for the creation of tolerant or resistant trees. The University of Florida,



and other entities, have invested millions of dollars into the Center already and Dr. Messina has brought some very bright minds in to collectively work on how to best produce and commercialize the trees of the future.

We also heard briefly from two of our grower members: **Morgan McKenna Porter,** the Chair of the **Citrus Research and Development Foundation (CRDF)** Board, and **Aaron Himrod**, CRDF Research Committee Chair, about the work of CRDF and how working collaboratively with the CTC they expect to advance the fight against HLB on multiple fronts.

Florida Citrus Mutual CEO **Matt Joyner** also provided the attendees a brief update on Florida legislative action, and how he believes that the State's 2024-2025 budget will treat citrus related projects, research and marketing.

We would like to thank all of the sponsors that made our HCCGA Annual Meeting possible this year. The roughly 250 members and guests that joined us this year certainly enjoyed themselves. We would especially like to thank the **Florida Department of Citrus** for sponsoring our social hour and the audio visual aspects of the program.



# Seeking Nominations for the Citrus Achievement Award

Since 2001, the Citrus Achievement Award honor has grown into the gold standard of industry recognition for those who have made and continue to make a significant impact within and even beyond the citrus community. This year, the award is moving to Citrus Industry magazine to keep the tradition thriving for many years to come.

The Citrus Achievement Award is presented to an individual grower, allied member, legislator, researcher or anyone else who stands out through leadership, innovation, dedication and active participation on behalf of the citrus industry.

Your help is needed to select the next honoree. Let us know who the 2024 Citrus Achievement Award winner should be and why. If you have someone in mind and are seeking to nominate a candidate, email <a href="mailto:Frank@AgNetMedia.com">Frank@AgNetMedia.com</a>.

The winner will be featured in Citrus Industry magazine's June cover story. Subsequently, the award will be presented during the Florida Citrus Industry Annual Conference in June.

### **Award Qualifications**

Candidates should meet the following requirements for consideration:

- Be actively involved with citrus production as a grower, packer/processor, marketer, industry stakeholder or researcher.
- Has had a measurable impact on the citrus industry within the last three years.
- Be actively involved in one or more citrus industry organizations or associations.
- Has demonstrated commitment to the future of the citrus industry, notwithstanding personal gain.
- Be a leader who is recognized and respected by industry peers.

The deadline for nominations is April 2, 2024.

The University of Florida Institute of Food and Agricultural Sciences and Southeast AgNet have partnered to provide the latest news on citrus-related research in monthly podcasts at: http://citrusindustry.net/allinforcitrus/

The podcast, "All in for Citrus," features short interviews with scientists working to find solutions to citrus greening and other devastating citrus diseases. The podcast complements the UF/IFAS Citrus Research website at: *citrusresearch.ifas.ufl.edu*, and their monthly newsletter.





# We Believe in Florida Citrus....

For more than 15 years, Magna-Bon has been helping citrus growers reduce copper toxicity in the soil. Our product, CS 2005, uses less than a quarter pound of copper per acre compared to several pounds with conventional coppers. With soil toxicity, this will drastically affect yields in the grove. Our systemic copper sulphate pentahydrate in-solution formula penetrates the stemmata of the citrus tree, absorbing CS 2005 to combat diseases such as: *Brown Rot, Greasy Spot, Pink Pitting, Scab, Melanose, and Citrus Canker!* 

### **Industry Support**

Magna-Bon supports regional trade shows, all regional citrus growers' associations, and various sponsorships throughout the year. Although it is not directly citrus related, Magna-Bon helped orchestrate selling blueberries from a local blueberry farm to the Central Florida area during the pandemic shutdown.

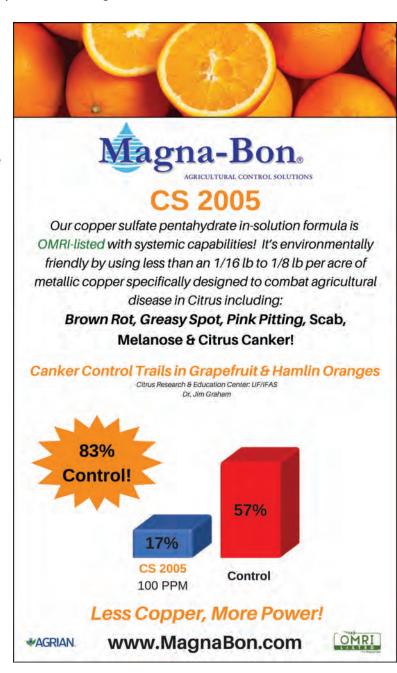
You can read the article in the May 2020 issue of Florida Grower.

### **Backed by Research**

We have more than nine years of research with the UF/IFAS research program. Research by Dr. Jim Graham notes that not only does Magna-Bon CS 2005 have systemic capabilities, it also helps with the suppression of citrus canker!

# Click Here to Watch Our Video on CS 2005 and See All Of Our Research Information!

We believe in Florida citrus because it's our state.
Our manufacturing plant is in Okeechobee, and we look forward to serving the agriculture community for many years to come!



# **Update: PGRs for HLB-Affected Trees**

Using the plant growth regulators (PGRs) cytokinin in spring, gibberellic acid (GA) in summer and 2,4-D in late fall can be helpful for HLB-affected trees, horticulturist Tripti Vashisth reported.

Her PGR update came during a Feb. 21 OJ Break at the UF/IFAS CREC in Lake Alfred.

Vashisth, who works at the center as an associate professor, said the combination of cytokinin in spring and GA in summer increased yield by approximately 90 pounds per tree in a grower trial. Vashisth noted that the grower in that trial has very little fruit drop. She noted that 2,4-D doesn't seem to be helpful when fruit drop isn't an issue.

### GIBBERELLIC ACID

Repeated applications of 10 ounces per acre of GA plus an adjuvant reduces fruit drop and improves yield and canopy growth, Vashisth said. She added that GA will keep fruit green and said a 2- to 4-month gap should be left between the last application and harvest. When an appropriate gap is given between the last application and harvest, GA doesn't reduce Brix, she said.

Vashisth recommended GA applications be made on Hamlin oranges from August to November and on Valencia oranges from September to December. GA applications should be avoided from January to May. Vashisth said spring (March to May) GA applications enhance fruit set, and enhanced fruit set is not desirable with current tree conditions.

### 2,4-D

Repeated applications of 2,4-D counteract the abscission signal, thus enhancing fruit retention, Vashisth reported. She emphasized that proper timing of applications is critical; applying 2,4-D too early or too late won't help.

### **BEST OF BOTH WORLDS**

Combining GA and 2,4-D gives the "best of both worlds in reducing fruit drop," Vashisth reported. She said small fruit drops first, and 2,4-D can stop small fruit from dropping "whereas GA keeps fruit growing longer, thus reducing the drop." If severe fruit drop is a problem, it's recommended to use 2,4-D plus GA. "Otherwise, a summer-fall spray of GA is recommended," Vashisth stated.

You can learn more about PGRs from Vashisth for HLB-affected trees at: https://citrusindustry.net/2024/02/06/pgrs-multipurpose-tools-citrus-improvement/.

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# **2024 Annual Citrus Conference**

Just a reminder to save the dates of June 12<sup>th</sup>-14<sup>th</sup> for the Florida Citrus Industry Annual Conference at the Hyatt Regency Coconut Point Resort in Bonita Springs. Florida Citrus Mutual has planned another great conference that will include informative educational sessions and a number of industry meetings for growers and associated partners to participate in.

Conference registration is now open and you can also reserve your hotel room. Visit Florida Citrus Mutual's NEW website at <a href="https://www.flcitrusmutual.com">https://www.flcitrusmutual.com</a>. To learn more about the conference, view the schedule of events and register to attend.

Book your hotel room reservations now for a discounted rate. The total room rate is \$149/ night when you book on or before April 30, 2024. When you book after that date, the room rate will be \$179/night.

There will also be a number of fellowship events to enjoy, and this is an extremely family friendly event and venue if you have not attended the conference at the Hyatt Regency Coconut Point Resort and Spa before.



### **Miss Florida Citrus 2024**

Alana Scheuerer, of Coral Springs, was crowned the new 2024 Miss Florida Citrus during the program's 100<sup>th</sup> Anniversary Centennial Celebration at Nora Mayo Hall in Winter Haven, FL on March 2, 2024.

Alana Scheuerer is a two-time Florida State University graduate, holding a degree in Hospitality Management and Tourism and a Masters in American Dance Studies. She works in the behavioral health field doing community outreach for the International Association of Firefighters Center of Excellence through Advanced Recovery Systems.

For winning the title, Alana received a \$1,000.00 scholarship and entry into the Miss Florida Pageant in Lakeland in June 2024.

As Miss Florida Citrus, Alana will travel throughout Florida promoting the importance of the citrus industry and including fruit and vegetables in the diet as part of a healthy lifestyle.

The Florida Citrus Queen Pageant began in 1924 and has been part of the Miss America Organization off and on throughout the years, with the name changing to Miss Florida Citrus in 1984. Over the years, the representatives have traveled throughout the world promoting the Florida citrus industry. This year marks 100 years since the first Florida Citrus Queen was chosen on the shores of Lake Silver in Winter Haven, Fla.

For more information or to schedule an appearance, please contact Executive Director, Brenda Eubanks Burnette at (561) 351-4314 or *MFCitrus81@gmail.com*.







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# 2024 Florida Citrus Growers' Institute

The 2024 Florida Citrus Growers' Institute will be held on Tuesday, April 9, 2024, at South Florida State College, University Center Auditorium. Continuing Education Units (CEU's) will be offered for holders of restricted pesticide licenses (RUP) and certified crop advisors (CCA).

Please send registration information (name, address, phone & e-mail) by April 5, 2024 to:

Joy Spencer, Polk County Extension Service

P.O. Box 9005, Drawer HS03

Bartow, FL 33831

You can also contact Ms. Spencer by phone at 863-519-1041 or by email at *j.spencer@ufl.edu*.

You can also use the following link to register: https://ufl.qualtrics.com/jfe/form/

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### Citrus Growers Institute Program Agenda

**8:00 AM** Registration

**8:25 AM** Welcome and Introductions - Mr. Chris Oswalt, CES, Bartow, FL CREC Update - Dr. Michael Rogers, Center Director, UF/IFAS CREC

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

### Citrus Pest Management Session

**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 Session

**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

NonChemical Alternatives - Dr. Radmas Kanissery, UF/IFAS SWFREC

**12:05 PM** Sponsor Product Update

12:15 PM LUNCH

**1:15 PM** Sponsor Product Update

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

### Citrus Nutrient Management Session

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

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For additional information, contact Tamara Wood - 863.698.9276 or tamara@craftfdn.org

### **CRISPR**

Below is information from an interview of Dr. Nian Wang by Citrus Industry magazine

You've probably heard the term CRISPR in recent years. It is a relatively new breakthrough in science that has applications in human health and even in the fight against HLB. Nian Wang, a professor of microbiology and cell science with the UF/IFAS, has been on the forefront of CRISPR research. Here he breaks down the technology and its applications to citrus breeding.

### Q: What is CRISPR?

**A:** Scientifically, CRISPR stands for clustered regularly interspaced short palindromic repeats. It is basically the immune system of bacteria and archaea that cut invading bacteria and plasmid DNA. It is the foundation for the CRISPR-Cas genome-editing technology, which



we often simply refer it as the CRISPR technology, CRISPR genome editing or CRISPR. It acts like molecular scissors that can be used to cut a specific piece of DNA. In the context of developing disease-resistant (especially HLB disease) citrus varieties, it is often used to remove part of the disease susceptibility genes to deactivate it or make it not respond to the pathogens. Consequently, plants will become disease resistant or tolerant.

### Q: How have you been using CRISPR in your research in the fight against HLB?

**A:** We have been using CRISPR to edit citrus genes to improve citrus resistance/tolerance against HLB. Because the HLB pathogen *Candidatus* Liberibacter asiaticus (*C*Las) has not been cultured in media, it has been difficult to pinpoint the right target genes for editing. Our recent study shows that HLB is a pathogen-triggered immune disease. Immune responses are generally good for plants or humans against pathogen infections. However, when the immune response is always turned on, it will have significant negative consequences as it does in many autoimmune diseases.

In short, we have been using CRISPR to manipulate citrus immune response to generate HLB-tolerant/resistant citrus in several ways:

- 1. Editing HLB susceptibility genes to reduce the growth of *C*Las in citrus or reduce HLB damage
- 2. Editing genes related to antioxidants to mitigate oxidative stress caused by CLas
- 3. Editing genes in the immune-signaling pathway specifically triggered by *C*Las, such as genes responsible for reactive oxygen species production.

### CRISPR, Con't from page 18

### Q: How long have you been working on this CRISPR research?

**A:** It has been a long journey. We have been working on CRISPR since early 2013. We actually started working on genome editing in 2012 using a different technology called TALEN. But the TALEN technology is more time-consuming, expensive and complicated to work with, so we quickly switched to CRISPR once it showed promise in editing human cells in January 2013.

We have been developing and optimizing the CRISPR genome-editing technology for citrus since then. We were finally able to generate transgene-free genome-edited citrus plants in 2022. That means genetically modified organism (GMO)-free. It is important to note that transgenic crops face many challenges to be used in production because of regulations and public perception concerns, even though there are multiple GMO crops such as corn and soybean.

We have been dreaming about developing transgene-free genome-editing technologies for citrus from day one. It took us about 10 years to get there. We were excited once we finally developed the transgene-free CRISPR genome-editing technology for citrus in 2022.

Importantly, regulatory agencies have finalized rules that make it easy to deregulate transgene genome-edited crops generated by the CRISPR technology. As for application of the CRISPR technology in the fight against HLB, this really gives us a powerful tool to speed up the process to generate HLB-resistant/tolerant citrus varieties.

### Q: From start to finish, roughly how long does it take to develop a CRISPR citrus tree?

**A:** The editing starts at the single cell level, and the regeneration into plantlets takes about 10 months. It needs another 12 to 18 months for propagation to get enough replicates, to make plants grow bigger for **C**Las inoculation. We also need to make sure that the edited plants are not only resistant or tolerant to HLB, but also have the least negative effects on other traits such as fruit yield and quality.

So, it is roughly one year to generate the CRISPR tree. But it takes four to six years to complete multiple evaluations and tests and go through the regulation process at federal and state levels before reaching the hands of citrus growers as registered cultivars.

See CRISPR on page 21



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### CRISPR, Con't from page 19

### Q: How many targets have you identified that you believe have potential in resisting HLB?

**A:** We have been working on approximately 40 targets. Because **C**Las has not been cultured in artificial media, we have not been able to narrow down the target genes to single genes like with canker. We have seven or eight genes that we feel are most promising. We have generated over 100 sweet orange lines for those targets. We have mostly focused on sweet orange, especially Hamlin, because sweet orange is the main cultivar in Florida.

We need to focus on one cultivar first. We can edit other cultivars once we know the target for sure. We think this is the most efficient way to go forward. Most of our current edited lines are transgenic with few being transgene-free. Most of our transgene-free edited lines remain in the petri-dish stage. But our transgenic CRISPR lines will be tested in the field in March 2024. I think multiple lines will be HLB resistant or tolerant. Of course, we need to collect data to verify that, and we need to make sure there are no significant negative effects from the editing.

### Q: Is there anything else you would like to add?

**A:** I would like to thank my many UF/IFAS colleagues who have collaborated in this research. The progress we've made couldn't happen without their help. I want to thank the Graves family for their support of the <u>Graves Eminent Scholar Endowed Chair</u>, which I am honored to hold. This endowment is used for citrus biotechnology to enhance citrus research and the citrus industry. This endowment will provide the much-needed funds to speed up and scale up the generation of HLB-resistant/tolerant citrus varieties using the CRISPR technology. In addition, it allows the exploration of high-risk, high-reward research activities.

Courtesy of Citrus Industry magazine





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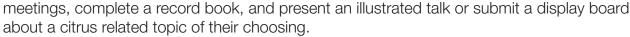
# **Highlands Youth Citrus Project**

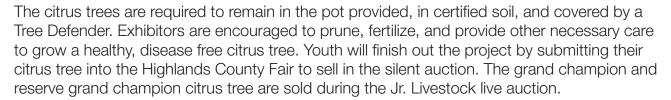
Congrats to **Everli Himrod** for growing the Grand Champion tree in the 2023-2024 Youth Citrus project which she sold during the Highlands County Fair's live auction. Thank you

to **K Aluminum** for being the high bidder (\$2,000.00) and supporting the program.

The Highlands Youth Citrus Project (HYCP) is now encouraging participants to sign up for the 2024-2025 season program for the upcoming year. The application deadline to register for the project is March 29th. The young people involved will get their tree and supplies on April 4<sup>th</sup>. The HYCP is open to all Highlands County youth ages 8+ as of September 1, 2024.

At the beginning of the project, youth purchase a tree kit, which includes a pot, soil, Tree Defender, and citrus tree. Throughout the project, participants must attend citrus informational





On behalf of the Highlands Youth Citrus Project, we would like to thank last year's supplies donors: Gose Growers for the citrus trees, Harrell's Fertilizer for the soil, and Tree Defender for the Tree Defenders. In addition, we want to thank our t-shirt sponsors: Blossoming Brands Marketing & Design, Hamilton's Fruit Tree Nursery & More, Lindsay Sapp Memorial Fund, Heartland National Bank, Lykes Bros. Inc., Razorback Land Services, Celtic Arms Gun Works, Legacy Produce, Emily Jones with Re/Max Realty Plus, Wedgworth Fertilizer, H&R Block, Highlands County Citrus Growers Association, Krista Browning Photography, and Wells Insurance. A special thank you to Somers Irrigation for providing an add-on to each exhibitor!

If you have any questions about the HYCP, are interested in becoming a sponsor or providing an add-on, please reach out to Alexis Cooper at the 4-H office by emailing *apontius@ufl.edu* or calling 863-402-6540. To register for the 2024-2025 Highlands Youth Citrus Project, visit <a href="https://www.eventbrite.com/e/850838740577?aff=oddtdtcreator">https://www.eventbrite.com/e/850838740577?aff=oddtdtcreator</a> or contact the 4-H office.





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