



# Citrus connection

## HIGHLANDS COUNTY CITRUS GROWERS **President's Column** by Bert Harris

I recently glanced through the June Citrus Soil Assay Update report that was shared by our friends at Syngenta. It offered hope in our ongoing struggle with HLB.

Syngenta reports that their June data showed that an increase in citrus root mass continues across all citrus regions of Florida. The increasing root mass in the blocs under aggressive production practices shows some degree of hope.

Root health is the key to a productive grove. Quite possibly, some of the production therapies that growers are today employing are making a difference--even in the face of the endemic disease. Hopefully that root mass growth will continue through the next several months and set our trees up for the fall and into the fruit harvest season.

Syngenta does caution that "this is a critical period to protect this root production and based on the sustained root activity we have experienced coupled with the optimal conditions for Phytophthora, we would advise advancing the timeline for soil fungicide applications to protect root flushes that are occurring now. Soil fungicide applications are always most effective when applied in sync with root flushes and prior to disease reaction and establishment."

Syngenta strongly recommends that growers continuing to sample 3 times per year (spring, summer and fall) to actively monitor root activity, Phytophthora, and continue to gauge the root health impact of various horticultural activities such as OTC injections and soil fungicide applications.

We share information like this to remind our growers and our community that our citrus industry, though significantly challenged, will utilize new production tools to claw its way into the future. The citrus industry will most likely reconstitute itself differently than the historical model – but there will be a citrus industry in Highlands County!

Each grower will assess a wide range of agronomic and financial factors, and decide how, when and whether to move forward. At some point, there will be new planting and production protocols, as well as new rootstocks and scions. Hopefully lessons learned from CRAFT & CRDF projects, grower innovation, and partners like Syngenta will light a path through HLB.

Citrus Expo is August 21<sup>st</sup> & 22<sup>nd</sup> at the State Fairgrounds in Tampa. Consider making the trip over to get the latest hot poop!

If the Association can be of any assistance – please call Ray.

### JULY 2024

- CRAFT Program Update
- Citrus Crop Expo
- Expo Seminar Schedule
- USDA Crop Update
- CRDF Breeding Project
- OTC/Soil Microbiome Interaction
- Chlorpyrifos Update
- Promoting Florida OJ
- Citrus Fun Shoot
- Fun Shoot Registration
- Foliar Feeding

*Bert Harris III*



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## 2024 Calendar of Events

### August 21-22

Citrus Expo @ Florida State Fairgrounds in Tampa

### August 28-30

Ag Labor Relations Forum @ Wyndham Grand Orlando Resort Bonnet Creek

### October 11

Initial 2024-2025 USDA Citrus Crop Forecast  
and Florida Citrus Mutual BBQ Luncheon

### November 12-14

Ag-Venture @ Highlands County Fairgrounds

### December 7

HCCGA Citrus Fun Shoot @ Quail Creek Sporting Ranch

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



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# Executive Director's Report

BY RAY ROYCE

A reminder that the 2024 Citrus & Specialty Crop Expo, and its very informative educational sessions, will take place on **August 21<sup>st</sup> & 22<sup>nd</sup>** at the Florida State Fairgrounds in Tampa.

Save the date of **Friday, October 11<sup>th</sup>** for Florida Citrus Mutual's BBQ luncheon to hear the Initial USDA Citrus Crop Forecast for the 2024/2025 season. The industry gathering at the Putnam Ranch in Zolfo Springs is sure to draw quite a crowd of industry members and political figures.



Our annual Citrus Sporting Clays Fun Shoot is returning to Quail Creek Sporting Ranch this year, and will be held on **Saturday, December 7<sup>th</sup>**. Even if you don't shoot sporting clays – you may want to join us for our famous Seafood and Prime Rib Luncheon and raffle drawings. Registration is now open, so sign up early!

The application period for Cycle Six of the traditional CRAFT New Tree Planting Program and Round Three of the Existing Tree Therapies Program is now open. Applications are available online at <https://craftfdn.org>. Any interested grower has until **5:00 p.m. on Friday, November 1, 2024** to submit their application.

All current Association members should receive their 2024 HCCGA Member Directory in the mail in the coming weeks. The directory is designed to be a great year round resource tool. So I encourage you to take a quick look at who our Associate members and advertisers are; they are supporting our industry and Association, and I hope you will give them due consideration when you are in the market for goods and services.

Every year in my July newsletter report I take the opportunity to preach a little bit about Prostate Cancer (*hope you all don't mind*). It has now been twenty-two years since I was surprised to be diagnosed with a relatively advanced stage of this disease, and very soon thereafter underwent surgery and follow-up hormone treatments. I also underwent radiation treatment a little less than fifteen years ago to treat a reoccurrence. These bouts with cancer treatments, post treatment ramifications and the potential for future reoccurrences impact many aspects, both mentally and physically, of my life on a day to day basis.

I am also aware of others in our industry that have had to deal with this disease at relatively younger ages, so I want to strongly encourage all of our male members and friends over the age of 35-40 to get their **PSA** checked each and every time they have any blood work done. It takes absolutely no additional effort. Prostate cancer is the leading cancer that most men will have to face in their lifetime, and there is some research that shows *a significantly higher disease incidence among men who work with agricultural chemicals*.

Do not let your physician tell you that this is a disease of just older men or to not worry about testing for it until later in life (*one of my doctors did just that*). I was 44 years old at the time and my disease was already relatively advanced. I hope you don't mind me getting up on my prostate cancer soap box once a year, but early detection and action can help save your life!

While we strive to keep our members as informed as possible on a wide range of local issues, 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



## 2024 Florida Citrus Growers' Institute Presentations Online

The 2024 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/2024>

## 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>

## 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.

## 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 has info about the TEAM card.. It can be found at: <https://www.floridafarmbureau.org/agricultural-sales-tax-exemptions-in-florida>

## 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 available online at: <https://crec.ifas.ufl.edu/citrus-research/presentations/citrus-expo-2023>.

## "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.

## UF/IFAS Research Website

The updated Citrus Research and Education Center (CREC) website at <https://crec.ifas.ufl.edu/citrus-research> 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 <https://pesticideexam.ifas.ufl.edu/public/countyList.faces>.

## 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 [news@citrus.myflorida.com](mailto:news@citrus.myflorida.com) and ask to be added to FDOC's email distribution list.

# CRAFT Program Update

The CRAFT Board of Directors and Staff are pleased to announce that the Cycle Six of the traditional CRAFT New Tree Planting Program and Round Three of the Existing Tree Therapies Program applications are now available online at <https://craftfdn.org>. Any interested grower has **until 5:00 p.m. on Friday, November 1, 2024** to submit their application.



The CRAFT Board of Directors, with the help of the Technical Working Group, has established a list of Factors of Interest that includes areas of focus that are considered of higher interest for Cycle Six and Round Three. This list, as well as rules for participation in the CRAFT and ETT program, and payment schedules can also be found on the CRAFT website. Please note that this "Factors of Interest" list is not exclusive and growers are encouraged to submit all project applications that they believe may be beneficial in the fight against HLB.

Along with the regular solid-set planting and reset categories, Cycle Six will once again include a "Solid Set with PEP Materials" category. These projects will be between 20 and 50 acres and will look at plantings of at least two scions propagated as part of the Program for Expedited Propagation (Lennon Early R20-T30-Parson Brown; Lennon Early R21-T36-Hamlin; Hamlin N14-10; Sweet Orange UF OLL-DC-3-36; and Sweet Orange UF OLL-DC-3-40) compared to an equivalent early or late season standard scion which will serve as a control. Growers who apply and are approved for participation in this category will receive \$6,000 per acre over the course of their agreement. Additional details and payment schedules are available at <https://craftfdn.org>.

Growers with any questions or in need of more information about the program are encouraged to contact Executive Director and Program Manager Steven Hall at [Steven@craftfdn.org](mailto:Steven@craftfdn.org), Assistant Program Manager Tina Buice at [Tina@craftfdn.org](mailto:Tina@craftfdn.org), or Scientific Coordinator Carisa Keller at [Carisa@craftfdn.org](mailto:Carisa@craftfdn.org).



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# Full Agenda for Citrus & Specialty Crop Expo Announced

The full agenda has been announced for the Citrus & Specialty Crop Expo scheduled for Aug. 21–22 at the Florida State Fairgrounds in Tampa. The event provides a great venue for growers to network with their peers and learn during several educational seminars.

The general session on the morning of Aug. 21 will cover a wide range of topics including the farm bill, promoting Florida-grown fruits and vegetables, and a special Ag policy panel discussion that delves into key agricultural issues facing Florida growers. Mike Joyner, president of the Florida Fruit & Vegetable Association, will moderate the panel discussion. Participants include Florida Commissioner of Agriculture Wilton Simpson, State Representative Danny Alvarez and State Senator Jay Collins.

Two seminar sessions dedicated to citrus production will provide growers with information they need in the fight against HLB. Highlights include updated information on trunk-injection therapy, new varieties and rootstocks, as well as researcher and grower panel discussions.

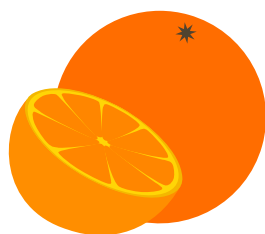
For more information and to register for the event, go to: <https://citrusexpo.net>.

*See SCHEDULE on page 7*

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## ***Expo Seminar Schedule***

### **Wednesday August 21, 2024**

- 9:00 a.m. General Session Welcome and Sponsor Message  
*Frank Giles/Farmer's Law Group*
- 9:15 a.m. Citrus Research and Development Foundation Update  
*Aaron Himrod, CRDF*
- 9:30 a.m. Promoting Fresh From Florida Fruits and Vegetables  
*Chef Justin Timineri, Florida Department of Agriculture and Consumers Services*
- 9:50 a.m. Direct-to-Consumer Marketing Best Practices  
*David Hill, Southern Hill Farms; Dustin Grooms, Fancy Farms*
- 10:20 a.m. Farm Bill Debate and Specialty Crop Priorities  
*Tori Rumenik, Florida Fruit & Vegetable Association*
- 10:50 a.m. Ag Policy Panel Discussion  
*Moderator: Mike Joyner, Florida Fruit & Vegetable Association; Panel: Florida Agriculture Commissioner Wilton Simpson, State Senator Jay Collins and State Representative Danny Alvarez*
- 12:00 p.m. Lunch and Visit Trade Show
- 2:00 p.m. Citrus Seminar Welcome and Sponsor Message  
*Michael Rogers and Rob Gilbert, University of Florida Institute of Food and Agricultural Sciences (UF/IFAS)/TJ BioTech*
- 2:15 p.m. Optimizing Oxytetracycline (OTC) Injections  
*Ute Albrecht, UF/IFAS*
- 2:40 p.m. Integrating Antibiotics into a Broader Management Plan for Psyllids and HLB  
*Lukasz Stelinski, UF/IFAS*
- 3:05 p.m. Integrated Grove Management Practices and Plant Growth Regulators  
*Tripti Vashisth, UF/IFAS*
- 3:30 p.m. UF/IFAS Researcher Panel: Optimizing Production in the Grove  
*Moderator: Michael Rogers; Panel: Davie Kadyampakeni, Megan Dewdney, Ute Albrecht, Tripti Vashisth and Jim Graham*
- 4:30 p.m. Visit Trade Show and Enjoy Cocktail Reception

### **Thursday August 22, 2024**

- 9:00 a.m. Citrus Seminar Welcome and Sponsor Message  
*Frank Giles/Certis*
- 9:15 a.m. Grove First: New and Old Chemistries for HLB Management  
*Brian Scully, Randy Niedz and Michelle Heck, U.S. Department of Agriculture*
- 9:30 a.m. UF/IFAS Crop Transformation Center Working for Citrus Growers  
*Charlie Messina, UF/IFAS*
- 9:45 a.m. The Economics of OTC Injections  
*Ariel Singerman, UF/IFAS*
- 10:00 a.m. Bulimulus Snail Management in Citrus  
*Lauren Diepenbrock, UF/IFAS*
- 10:15 a.m. Citrus Nutrient BMP Update and Irrigation Management of HLB-Affected Citrus  
*Davie Kadyampakeni, UF/IFAS*
- 10:30 a.m. HLB-Tolerant Early Season Sweet Oranges  
*Manjul Dutt, UF/IFAS*
- 10:45 a.m. The Economics of Breaking the Diaprepes Life Cycle  
*Larry Duncan, UF/IFAS*
- 11:00 a.m. Establishing New Varieties in a New Citrus Grove  
*John Chater, UF/IFAS*
- 11:15 a.m. Grower Panel on Optimizing Production in Today's Environment
- 12:15 p.m. Seminars End/Visit Trade Show



# USDA Citrus Crop Forecast Update

July, 2024

The 2023-2024 Florida all orange forecast released on July 12<sup>th</sup> (the last forecast update of the 2023-2024 season) by the USDA Agricultural Statistics Board is 18.0 million boxes. The total is comprised of 6.76 million boxes of non-Valencia oranges (early, mid-season, and Navel varieties), unchanged from the June forecast, and 11.2 million boxes of Valencia oranges, up 100,000 boxes from the June forecast.

The forecast of all Florida grapefruit production remains at 1.79 million boxes. Of the total grapefruit forecast, 240,000 boxes are white, and 1.55 million boxes are the red varieties.  
The Florida all tangerine and tangelo forecast is unchanged at 450,000 boxes.

The first forecast of the 2024-2025 season will be released at 12:00 p.m. ET on October 11, 2024. Florida Citrus Mutual will host a grower gathering and BBQ lunch at the Putnam Ranch in Zolfo Springs for the initial forecast – more information about this event will be shared as the date approaches.

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# CRDF Approves Project to Enhance Breeding Efforts

The CRDF convened for its July board of directors meeting with several projects under consideration. The board approved funding of a work program for the plant improvement teams of the USDA-ARS and UF/IFAS. The project is funded for three years. It sets the stage for each institution's team to work in concert with the other so that greater efficiencies can be realized, but also so that new germplasm can be evaluated side-by-side.

"One of the more important provisions was the sharing of both institutions of a bioinformatics person to identify the genetic and phenotypical traits of the most promising varieties more quickly so that we can find the 'tree of the future' as fast as possible," said Rick Dantzer, CRDF chief operating officer.

The board also continued funding projects related to zinc and brassinosteroids, improving the uptake of oxytetracycline (OTC) by using callose inhibitors, and the measurement of improvements in tree health and yield from injecting OTC.

"We also had a good discussion of what would be required to tee up the consideration by regulators of using streptomycin or kasugamycin in concert with OTC," Dantzer said. "We may ultimately decide against pursuing it, but it probably makes sense to begin doing some of the required work in case we do seek a label."

Kasugamycin was discovered in the 1960s in Japan and was developed to control the fungus that causes rice blast disease. It was later discovered kasugamycin could inhibit bacterial growth.

*Courtesy of Citrus Industry magazine*

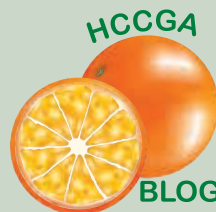
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# NRCS Cost Share Funding

Agricultural property owners should consider contacting the Natural Resources Conservation Service (NRCS) Sebring Field Office about the potential for cost share assistance across a broad set of resource protection and enhancement categories. The local NRCS contact is Carlos Torres, whose office is located in the Bert J. Harris Ag Center at 4505 George Blvd. The office phone number is (863) 385-7853.

The great staff (*including Executive Director Susie Bishop*) in the Highlands Soil & Water Conservation District office, housed in the same office location, may also be able to help provide some guidance about potential funding opportunities, both with NRCS and other agencies, if you have trouble reaching Carlos. Their office number is (863) 402-7020.

Apparently NRCS's federal funding for projects will double or even triple in the next year or so – so there should be significant funding opportunities out there within several different programs. Also always keep in mind that even if there is not an existing program that your ideas for cost sharing funding may fit neatly into – you can always propose an idea for funding assistance for consideration. They at times can make some unique things work out.

However, it is a lengthy process to acquire NRCS cost share so you want to get started in the coming months in order to meet an application deadline sometime this coming November 2024 for approval consideration in the late spring of 2025.

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# Study Looks at Interaction Between OTC and Soil Microbiome

By Daniel Cooper

A wealth of observations are being recorded by growers and scientists on the effects of trunk injection of oxytetracycline (OTC). Visually, trees have responded with better canopies. Hopefully, higher yields and quality will continue to follow the applications.

But what about below ground? There have been recorded improvements in citrus root mass in treated trees. Sarah Strauss, associate professor of soil microbiology with UF/IFAS, has been studying the impact that OTC might be having on the soil microbiome. We asked her about the research, which was presented at the recent International Research Conference on Huanglongbing (HLB). She also discusses this topic in the June 2024 episode of the “All in For Citrus” podcast that can be accessed at: <https://citrusindustry.net/allinforcitrus>.

## Why is it important to consider the plant microbiome when considering any new type of treatment applied to citrus, including OTC?

**Strauss:** The plant microbiome, or all of the microbes that live in and around the tree, is important for overall soil and tree health. For example, there are microbes in the soil around the roots of trees that can help increase nutrient availability for a tree and increase the tolerance of the tree to different stresses. There are also potentially beneficial microbes that are in the bark of trees that can help with disease resistance and stress tolerance.

## What happens to the plant and rhizosphere when you inject trees with OTC?

**Strauss:** Citrus trees injected with OTC had reduced abundance of the HLB-causing bacteria — *Candidatus Liberibacter asiaticus* CLas) — in the leaves compared to the control and roots, but only for a short time after injection. However, OTC injection significantly increased the Brix, Brix/acid ratio, fruit weight and fruit color compared to controls.

We found that the abundance and diversity of bacteria and archaea in the rhizosphere and bark decreased after OTC injections, but the abundance of bacteria and archaea in the bark recovered to pre-injection levels three months after the injection. There also were no major changes in the composition of the microbial communities in the bark and rhizosphere with OTC injection.

## What did your study on OTC treatment and the soil microbial community involve?

**Strauss:** We conducted a study at a commercial citrus grove in Southwest Florida that had 8-year-old Valencia trees on Carrizo rootstock. It was a complete randomized block design with eight replicated blocks. OTC was injected in June 2022 with Chemjet Tree Injectors using Arbor-OTC. Three injectors were used to deliver a total of 1.2 grams of active ingredient per tree. We collected samples of leaves, bark and fibrous roots (with soil attached) three days, three weeks and three months after the injection.

See **INTERACTION** on page 12

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### ***INTERACTION, Con't from page 11***

Microbial RNA was extracted from the bark and rhizosphere (soil around the roots). We transformed that RNA into cDNA, and then sent that for amplicon sequencing to determine the diversity and composition of the microbes of the rhizosphere and bark. We also measured CLas and OTC in the bark, leaves and roots and collected fruit quality and yield data in March 2023.

Ute Albrecht, UF/IFAS associate professor of plant physiology, myself, several members of Ute and my labs (Carolina Tardivo, Brittney Monus and Jasmine de Freitas) as well as two colleagues from Spain (Antonio Castellano-Hinojosa and Jesus Gonzalez-Lopez) conducted this study.

### **Were there any indications that the OTC was having a positive effect below ground with the roots and the soil microbial makeup?**

**Strauss:** In both the rhizosphere and the bark, we found that several specific bacterial groups were positively correlated with increases in fruit yield and weight and a decrease in OTC concentrations. While correlation does not necessarily mean one thing caused another, it does indicate that OTC injections might result in increases in potentially beneficial bacteria in the bark and rhizosphere.

### **Is there anything else you would like to add?**

**Strauss:** Long-term studies are needed to find out if the results we found in the short term (just three months after injection) hold for longer periods after injection and after repeated injections. There are many more questions that we should try and address about how OTC is impacting the microbes in and around citrus, from gaining a better understanding of how these changes in the microbes might help tree performance to whether injections are increasing the resistance of bacteria to this antibiotic. We hope to conduct those studies soon.

Courtesy of AgNet Media

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# Chlorpyrifos Update for Growers

By Brett Bultemeier and Lauren Diepenbrock

The status and availability of chlorpyrifos has had numerous, and at times, confusing changes due to new rules, court rulings and Environmental Protection Agency (EPA) decisions. The point of this article is to clearly define if chlorpyrifos can be used and until what date. As always, changes are possible in the future and users must *always* read and follow the label.

The products found in Table 1 are the formulations containing chlorpyrifos that are still allowed to be used (according to the label) on food. These products can continue to be used according to the label, although there will likely be changes to these labels soon. The EPA has identified 11 uses that it anticipates will be allowed in the future, albeit with changes to use pattern and exposure mitigation measures.

The EPA intends to limit these products to the following uses: alfalfa, apple, asparagus, cherry (tart), citrus, cotton, peach, soybean, strawberry, sugar beet and wheat (spring and winter). Furthermore, there are state limitations for these crop sites.

In Florida, only the following crops will have tolerances and uses: citrus, cotton, peach and soybean. Note that strawberry is *not* on the allowed list.

**Table 1.** Chlorpyrifos products still approved with food uses.

EPA Registration No.	Product Name
931382-7	Gharda, Pilot 4E1
93182-8	Gharda, Pilot 15G1
19713-505	Drexel, Chlorpyrifos 15G
19713-520	Drexel, Chlorpyrifos 4E-AG
19713-527	Drexel, CHLOR-PY-REX
19713-599	Drexel, Chlorpyrifos 4E-AG2
19713-671	Drexel, Lambdafos
34704-857	Loveland, Warhawk
34703-1077	Loveland, Warhawk Clearform
34704-1086	Loveland, Match-Up

<sup>1</sup> These products have been limited by the manufacturer to the 11 crop groups discussed in this article. The products found in Table 2 are those formulations where the product has been cancelled, *but* any product still in the user's supply can be sprayed. These products can be used as the label directs on food crops until June 30, 2025, at which point continued use would be restricted. These products are unlikely to be available for sale, and finding alternatives to these products is advisable.

See **UPDATE** on page 14



**UPDATE, Con't from page 13**

**Table 2.** Chlorpyrifos products that are canceled but can still be used on food until June 30, 2025.

EPA Registration No.	Product Name
66222-19	ADAMA, Chlorpyrifos 4E AG
66222-233	ADAMA, Vulcan
11678-58	ADAMA, Pyrinex
83222-20	Winfield, CPF/Yuma 4E
83222-34	Winfield, CPF 15G
1381-243	Winfield, Tundra Max/Supreme
89168-20	Liberty, Chlorpyrifos Bifenthrin
89168-24	Liberty, Chlorpyrifos 4E

Any products containing chlorpyrifos not found in Table 1 and Table 2 have either been canceled or do *not* allow use on food. At this point, using any of these products on food crops would constitute a misuse. Any remaining stocks of these products should be properly disposed of.

Ensure the products you are using are registered in the state of Florida and that no additional restrictions are in place. As of June 24, 2024, Florida has no additional restrictions. Given the June 30, 2025 cutoff date on some products, the dramatic reduction of uses and possible future changes, finding alternative pest control options for food crops is advisable. For possible alternatives, refer to the Florida Citrus Production Guide at: <https://crec.ifas.ufl.edu/resources/production-guide>.

For more information about these decisions, refer to the federal register page that EPA has established for these products at: <https://www.federalregister.gov/documents/2024/03/15/2024-05594/chlorpyrifos-amendment-to-existing-stocks-provisions-in-adama-product-cancellation-orders>.

The U.S. Department of Agriculture can help with any additional questions by reaching out to Clayton Myers ([Clayton.Myers@usda.gov](mailto:Clayton.Myers@usda.gov)) at the Office of Pest Management Policy or Kimberly Nesci ([Kimberly.Nesci@usda.gov](mailto:Kimberly.Nesci@usda.gov)). Growers can also contact EPA ([OPPChlorpyrifosInquiries@epa.gov](mailto:OPPChlorpyrifosInquiries@epa.gov)).

**Brett Bultemeier and Lauren Diepenbrock are UF/IFAS assistant professors**



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# 'OG' to Promote Florida OJ

A new Florida Department of Citrus (FDOC) ad campaign is likely to use the term "OG" extensively, according to new FDOC marketing agency Padilla Speer Beardsley, Inc.

So, what does "OG" mean? Michelle Amoroso of Padilla explained that an OG is someone who is an original or originator, highly regarded and respected. She added that OGs are the paradigm; they set the standard that no one can quite live up to, just like orange juice (OJ) from Florida does.

"Nobody is better placed to own 'orange' and 'original' than orange juice from Florida," Amoroso said. "You are the OG juice."

## Ideas Presented

She shared videos and ads for new campaign ideas during the Florida Citrus Commission's (FCC) June meeting. The ideas included:

OG Knows OJ

Wellness Originals

Mixol-OG

The Original Immune Booster

Cardiol-OG Connection

Get Your Game On

Get Your Juice on With the Original Wellness Drink



According to Amoroso, the agency plans to have a proactive editorial calendar to keep Florida OJ and Florida citrus in the news more often under positive headlines.

## Smaller Budget

The FCC, which serves as the FDOC's governing board, also approved a preliminary 2024–25 FDOC budget during the June meeting. The FCC will approve a final budget after the first federal citrus crop forecast of the 2024–25 season is released on Oct. 11. Much of the FDOC's budget is funded by assessments on each box of Florida fruit harvested during the season.

The preliminary revenue budget is \$21.27 million, a decrease of \$1.906 million from last fiscal year. The proposed expenditure is \$21.087 million, a decrease of \$1.633 million from last year.

For processed oranges, the preliminary budget is \$17.597 million, a decrease of \$1.285 million. For grapefruit, the budget is \$3.262 million, a decrease of \$434,000 from the current year. The fresh orange budget totals \$313,000, a decrease of \$101,000 from 2023–24. The preliminary fresh specialty budget is \$98,000, a \$100,000 decrease from last year.

**Source: FDOC**



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# 2024 Citrus Fun Shoot at Quail Creek - December 7th



Registration is now open for the **2024 HCCGA Citrus Sporting Clays Fun Shoot**. We are very pleased that the Citrus Fun Shoot is returning to **Quail Creek Sporting Ranch** for 2024.

While our Fun Shoot has evolved over the past 27 plus years, the key concepts remain the same – providing a great opportunity for fellowship with others within our industry and the greater agricultural community, fun clay target shooting, great and plentiful food and some fabulous green bird station and raffle prizes.

So make plans to join us on **Saturday, December 7<sup>th</sup>** for our 27<sup>th</sup> Annual Citrus Fun Shoot and Prime Rib & Seafood luncheon extravaganza. A registration flier is included in this month's newsletter.

For information about Quail Creek Sporting Ranch, a full service world class shooting destination located just north of Okeechobee, check out their website at: <https://quailcreeksportingranch.com>.

We want to thank our shoot's Title Sponsors: **Tropicana Brands Group, Duke Energy, TradeMark Nitrogen, Alan Jay Fleet Sales, PGIM Real Estate, Hood Citrus Caretaking, Peace River Citrus Products, Magna-Bon II, AgNet Media, Cowpokes Watering Hole Restaurant, CRAFT, Glade & Grove Supply, Syngenta, Cutrale Citrus Juices USA, Wedgworth Fertilizer, Everglades Equipment Group, Natalie's Orchid Island Juice Company, and Florida Power & Light.**

Our Seafood & Prime Rib Luncheon sponsor is **Farm Credit of Florida**.

**Highlands County Attorney Sherry Sutphen** is sponsoring the "Shooters Only" gun drawing again this year.

Our Green Bird Station Sponsors so far are: **Tree Defender, Quality Roofing & Sheet Metal** and **Highlands County Sheriff Paul Blackman**.

We look forward to seeing many of you at **Quail Creek Sporting Ranch** on **Saturday, December 7<sup>th</sup>**!



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For additional information, contact Tamara Wood - 863.698.9276 or [tamara@craftfdn.org](mailto:tamara@craftfdn.org)



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For information about Quail Creek Sporting Ranch, go to: [QuailCreekSportingRanch.com](http://QuailCreekSportingRanch.com).

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# Foliar Feed Your Trees

*By Mongi Zekri*

Foliar fertilizer application is certainly not a new concept to the citrus industry. For over six decades, foliar fertilization has been recommended to correct zinc, manganese, boron, copper and magnesium deficiencies in citrus. It is now common knowledge in agriculture that properly nourished crops may tolerate insect pests and diseases. Traditionally, citrus growers try to achieve optimum nutrition through direct soil management. Currently, with citrus greening in Florida, many growers and production managers consider foliar fertilization a key factor to stimulate the natural defense mechanisms of their trees, to induce pest and disease tolerance, and to improve fruit yield and fruit quality.

In Florida, foliar nutrition programs are becoming very common and extensively used to deliver essential nutrients to citrus trees. Furthermore, economic and environmental considerations require the utilization of more efficient methods for nutrient applications. Foliar application of fertilizers can result in rapid nutrient uptake and reduced losses. Although field research has shown that supplemental foliar feeding can increase yield by 10% to 25% compared with conventional soil fertilization, foliar fertilization should not be considered a substitute for a sound soil fertility program.

Foliar fertilizer application is highly efficient because the materials are targeted to areas where they can be directly absorbed into the plant. However, foliar-applied nutrients prior to a rainfall are subject to being washed off the leaves and onto the soil.

Foliar fertilizer application provides a more timely and immediate method for delivery of specific nutrients at critical stages of plant growth. Foliar nutrition programs are therefore valuable supplements to soil applications. As indicated previously, foliar feeding is not intended to replace soil-applied fertilizer of macronutrients [nitrogen (N), potassium (K) and phosphorus (P)].

Foliar applications of macronutrients can, however, be alternatively applied in sufficient quantities to influence both yield and fruit quality. Citrus trees can have a large part of the annual N requirements met through foliar applications. Foliar applications of other macronutrients [calcium (Ca), magnesium (Mg) and sulfur (S)] and micronutrients [zinc (Zn), manganese (Mn), copper (Cu), boron (B) and molybdenum (Mo)] have proven to be an excellent means for satisfying citrus tree requirements.

## **Application Advantages**

Because fertilizer applications to the soil can be subjected to undesirable processes such as leaching, runoff and being tied up in the soil in unavailable forms, foliar applications of nutrients have been designed to be an integral component of overall tree nutrition programs. Foliar applications are used in other situations to help trees through short but critical periods of nutrient demand, such as vegetative growth, bud differentiation, fruit set and fruit growth.

Foliar application of nutrients is of great importance when the root system is unable to keep up with crop demand or when the soil has a history of problems that inhibit normal nutrient uptake. Foliar nutrition is proven to be useful under prolonged periods of wet conditions, dry conditions, calcareous soil, cold weather or any other condition that decreases the tree's ability to take up nutrients when there is a demand. Foliar feeding may be effectively utilized when a nutritional deficiency is diagnosed. Foliar application is absolutely the quickest method of getting the most nutrients into plants. However, if the deficiency can be observed on the tree, the crop has already lost some potential yield.

## **Consider Environmental Conditions**

While foliar feeding has many advantages, it can burn leaves at certain rates under certain

***See FEEDING on page 21***



## ***FEEDING, Con't from page 20***

environmental conditions. It is important, therefore, to foliar feed within some established guidelines. There are a number of plant, soil and environmental conditions that can increase the chances of causing leaf burn due to foliar fertilizer application.

For example, a tree under stress is generally more susceptible to damage. Stressful conditions include dry winds, disease infection and unfavorable soil conditions. The environmental conditions at the time of application are also important factors. Applications when the weather is hot (above 85 F) should be avoided. This means that during warm seasons, applications should be made in the morning or evening when the temperature is right, wind is minimal and the stomates on citrus leaves are open, allowing leaves to efficiently exchange water and air.

### **Other Factors**

Nutrient absorption is increased when spray coverage reaches the undersides of the leaves where the stomates are located. Favorable results from foliar feeding are most likely to occur when the total leaf area is large. Foliar applications of micronutrients, with the exception of iron, are more effective and efficient when the spring, summer and fall new flush leaves are about fully expanded.

Additionally, applications should be at least two weeks apart to give the tree sufficient time to metabolize the nutrients and deal with the added osmotic stress. To be efficient and to avoid crop damage, dilute solutions of nutrient formulations are recommended. Highly concentrated sprays, especially those including salt-based fertilizers, have the potential to cause leaf burn and/or drop.

Another important factor when applying foliar nutrients is to ensure that the pH of the spray solution is in the proper range (between 5.5 and 6.5). This is particularly important in areas where water quality is poor.

### **Fertilizer Sources**

In order to enhance uptake and thus the effectiveness of any foliar application, N should be added to the solution. Urea may be the most suitable N source for foliar applications due to its low salt index and high solubility in comparison with other N sources. Urea has been shown to stimulate absorption of other nutrients by increasing the permeability of leaf tissue. However, the urea utilized in foliar sprays should be low in biuret content (0.2% or less) to avoid leaf burn.

Other sources of N can be obtained from ammonium polyphosphates, ammoniated ortho-phosphates, potassium nitrate, calcium nitrate and ammonium thiosulfate. These sources, when utilized at low rates of foliar application, are excellent supplemental N carriers with minimal foliage burn side effects. Triazone N has been shown to significantly reduce leaf burn and enhance foliar-absorbed N compared with urea, nitrate, and ammoniacal N sources.

The use of a combination of poly and ortho-phosphates has been shown to lessen leaf burn and aid in leaf phosphate absorption. Phosphites have also been found useful, safe and not phytotoxic as foliar sprays on citrus trees. Potassium polyphosphates, potassium hydroxide, potassium nitrate and potassium thiosulfate sources combine both low salt index and high solubility characteristics.

Foliar application of Ca, Mg, S, Zn, Mn, Cu, B and Mo can be highly effective to satisfy nutrient requirements. However, there can be difficulties associated with leaf tissue absorption and translocation of calcium, magnesium, boron and molybdenum. Choosing the correct fertilizer sources for these nutrients can be critical.

***See FEEDING on page 22***

**FEEDING, Con't from page 21**

### Interactions And Incompatibilities

Be careful about possible chemical interactions among foliar fertilizers. Some materials are incompatible and should not be mixed. They may create precipitates that tie up and make some nutrients unavailable and/or clog spray nozzles. Many product labels warn of such incompatibilities. If there is no specific packaging information, small quantities of the materials should be mixed with water in a jar and shaken. If there is no precipitate, there should be no problem.

Foliar fertilization can sometimes be combined with pesticide application. However, timing conflicts and material incompatibilities can sometimes make combining such sprays unwise. Be sure to read all product labels and do the jar test if uncertain.

### What Works

Foliar applications of low biuret urea at 12 to 14 gallons or at 53 to 60 pounds (24 to 28 pounds N) per acre or phosphite (PO<sub>3</sub>) at 3 pints (60% P) to 2 quarts (26% P) per acre in late December/early January (6 to 8 weeks before bloom) have been demonstrated to increase flowering, fruit set and fruit production. Postbloom foliar applications of potassium nitrate or mono-potassium phosphate at 8 pounds K<sub>2</sub>O per acre have also been found to increase fruit yield and fruit size.

Foliar spray applications of 3 to 5 pounds per acre of Mg, Mn, Zn and Cu, and 0.25 to 0.50 pound per acre of B and Mo are also recommended on each of the three major flushes of citrus trees to prevent nutrient deficiencies, cope with HLB and improve production. Sulfate forms are less expensive, and nitrate forms appear to facilitate the uptake of micronutrients.

**Mongi Zekri is a UF/IFAS multi-county citrus Extension agent.**



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## Cutting Edge Nutrition & Crop Protection for Trees Impacted by Citrus HLB

BRANDT, a leading provider of specialty inputs, offers a wide range of proprietary nutrition and crop protection products. The following products are recommended to help treat trees that have been impacted by Citrus HLB.

### **Spring Pre-Bloom through Post-Bloom Sprays:**

#### **Foliar Feed with Boron, Calcium and Magnesium**

- **BRANDT® Manni-Plex® Cal-Mag** - high efficiency foliar calcium/magnesium
- **BRANDT Manni-Plex for Citrus** - high efficiency foliar nutrient combo for citrus
- **BRANDT Smart B-Mo** - high efficiency foliar boron/molybdenum
- **Celite® 610** - mechanical insecticide that contains 100% diatomaceous earth, OMRI Listed

### **Complexed Nutrients:**

#### **Feed with Dry Lignosulfates**

- **Agra Sol** - dry soluble powder chelated micronutrients

### **Summer Oil Sprays:**

#### **Foliar Feed and Protect**

- **BRANDT Smart K B** - high efficiency foliar potassium/boron
- **Nordox® 75 WG or 30/30** - copper fungicide, OMRI Listed
- **TresOil®** - emulsified fungicide/insecticide spray oil, OMRI Listed

*For more information, contact J.R. Gough at  
[Jr.Gough@brandt.co](mailto:Jr.Gough@brandt.co) or 863 781 0363*

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