

The Florida Senate  
**COMMITTEE MEETING EXPANDED AGENDA**

**AGRICULTURE**  
**Senator Rouson, Chair**  
**Senator Bradley, Vice Chair**

**MEETING DATE:** Wednesday, October 20, 2021  
**TIME:** 10:00 a.m.—12:00 noon  
**PLACE:** *Toni Jennings Committee Room*, 110 Senate Building

**MEMBERS:** Senator Rouson, Chair; Senator Bradley, Vice Chair; Senators Ausley, Boyd, Burgess, Perry, Polsky, Rodriguez, and Thurston

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TAB	BILL NO. and INTRODUCER	BILL DESCRIPTION and SENATE COMMITTEE ACTIONS	COMMITTEE ACTION
1	Presentation on the Key Accomplishments in Fighting Citrus Greening by the University of Florida/IFAS		Presented
2	Discussion of Challenges Facing Florida Farmers		Temporarily Postponed

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Other Related Meeting Documents

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# UF/IFAS HLB Research: **Key Accomplishments and Future Prospects**

**Michael E. Rogers**

Director & Professor  
UF/IFAS Citrus Research & Education Center

Statewide Coordinator  
UF/IFAS Citrus Research & Extension Programs



# HLB: A century's old disease of citrus

- There's never been a solution developed for HLB in the countries where present prior to Florida
- **2005** prediction: The Florida Citrus Industry will be wiped out in 10 years!



# 2005 Prediction: The Florida Citrus Industry will be wiped out in 10 years

Predicted



Spring 2020



# Short-term solutions for HLB

Research-based tools for growers to stay in business while longer term solutions to HLB developed

Today's presentation:

1. Tree health/productivity
2. Disease-tolerant varieties from IFAS
3. Fresh fruit production (niche markets)



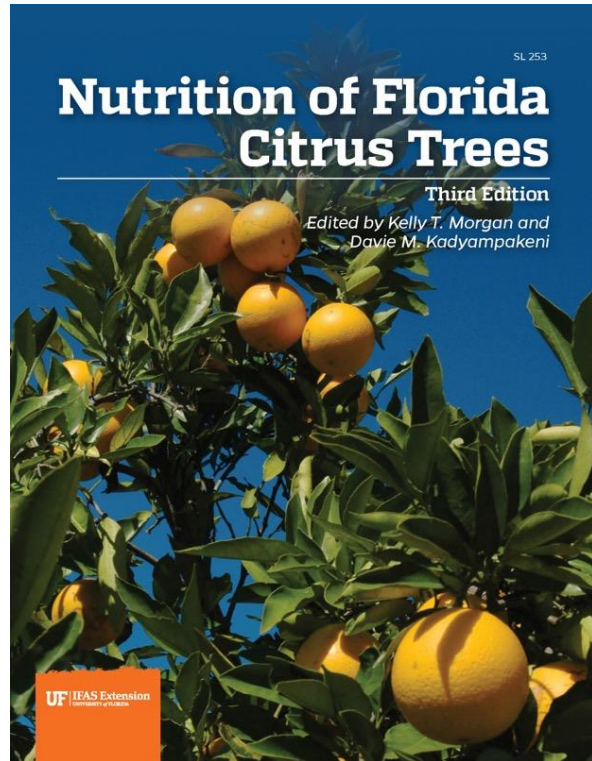
# Improved health of HLB-diseased trees

## New water and nutrient guidelines

- Proper macro/micronutrient balance
- Adjusted irrigation and soil pH



Rehabilitated grove  
(6.5 years old)



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# Citrus Nutrition Box Program



- UF/IFAS specialists and Extension agents provided customized nutrition management plan for each participant's grove
  - Every grove's nutritional needs are different
  - One size does not fit all!

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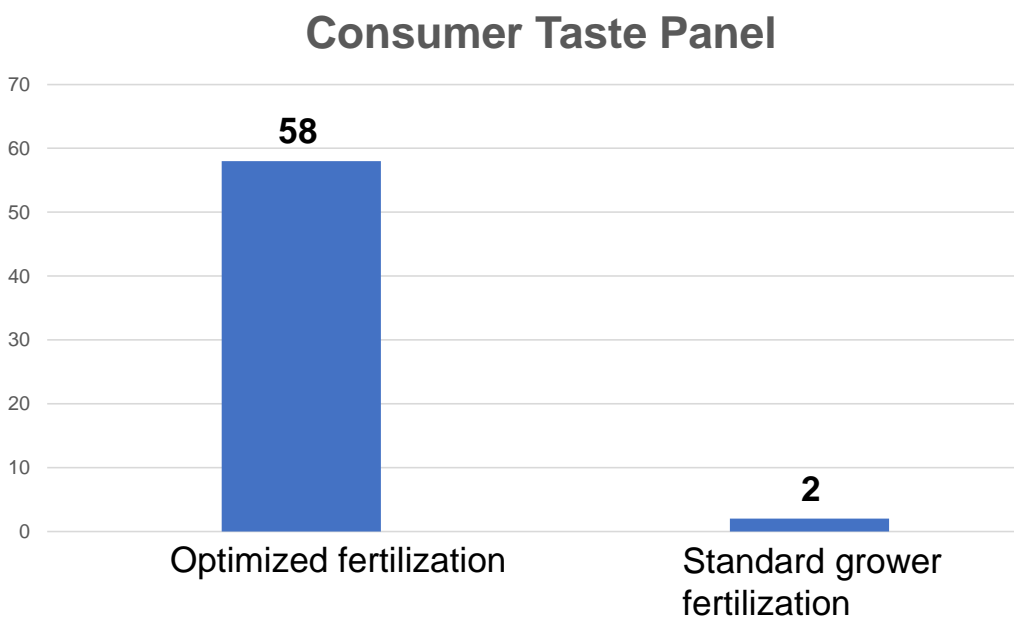


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# Proper fertilization improves juice quality

Consumers prefer OJ produced following new IFAS nutrient management guidelines!



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# Use of Gibberellic Acid (GA) Treatments to Improve Health and Yield of HLB Diseased Trees

- **Product already labeled for use in Florida citrus**
  - New UF/IFAS recommended use patterns to reverse the effects of HLB
- **Reverses oxidative stress symptoms caused by HLB to:**
  - Synchronize bloom
  - Increase tree shoot growth
  - Increase tree canopy density
  - Decrease fruit drop
  - Increase fruit yield (quantity and fruit size)

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# Valencia Orange Field Study (2016-2021)

**GA-treated trees maintained dense tree canopies**



# Valencia Orange Field Study (2016-2021)

Trees treated with multiple GA applications produced more fruit

4 year average

	pounds/tree
Control	176
GA	228

↓

	Boxes per acre
Control	293
GA	380

**87 box/acre increase**



# Valencia Orange Field Study (2016-2021)

## Economic benefit of GA

	2018	2019	2020	2021
Profit per acre based on average yield (across all plots)	\$1030	\$1712	\$457	\$1123

**GA applications increased average annual PROFIT by **\$1,080 / A****

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# Better oranges make better juice!

UF/IFAS has released 20 new superior quality sweet orange varieties for the OJ processing market



New release OLL-20



Left: juice from OLL-8:

Right: Florida NFC purchased at Publix



UF/IFAS citrus breeding program core funding provided by the CRDF

# Citrus Under Protective Screen (CUPS)

Opportunity for high-value fresh fruit production



Funded by FDACS Specialty Crop Block Grant, CRDF, and USDA

# Sugar Belle – 1<sup>st</sup> UF/IFAS variety tolerant of HLB



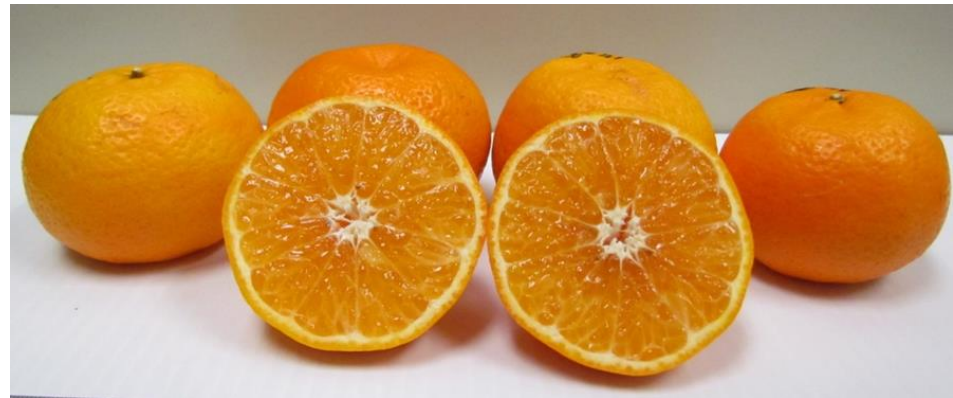
8-yr old Sugar Belle trees (Vero Beach)



# HLB tolerant 'Marathon' mandarin



**Harvest window Sept-Dec**





# Coming Soon... 'Gator Bites'

Far superior to 'Cutie/Halo' varieties from California



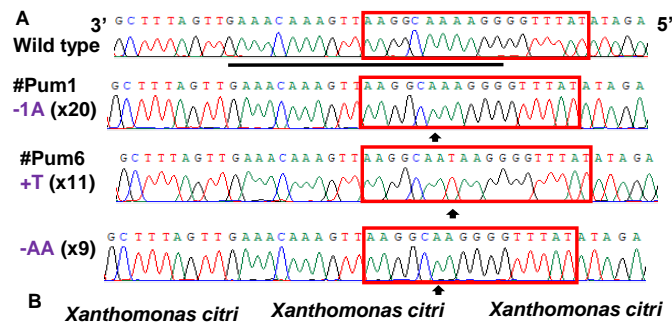
# Long term solutions for HLB

- Sustainable psyllid management
- **Disease-resistant varieties (conventional breeding / biotech)**
- Improving fruit yield / high quality fruit



# UF/IFAS developed the first gene-edited citrus variety in the world

Canker-resistant grapefruit plants were developed using CRISPR gene editing techniques



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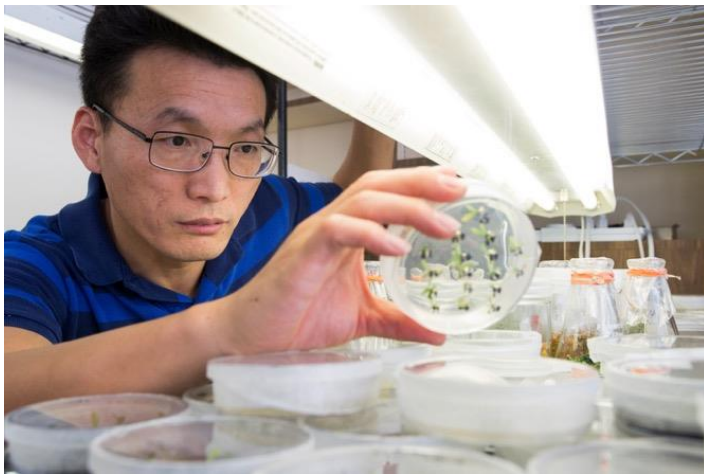


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# Using CRISPR (gene-editing) to develop HLB-resistant citrus

Eight promising HLB susceptibility/resistance genes are now being edited in the genome of commercial citrus varieties.



Genome modified embryogenic citrus plants

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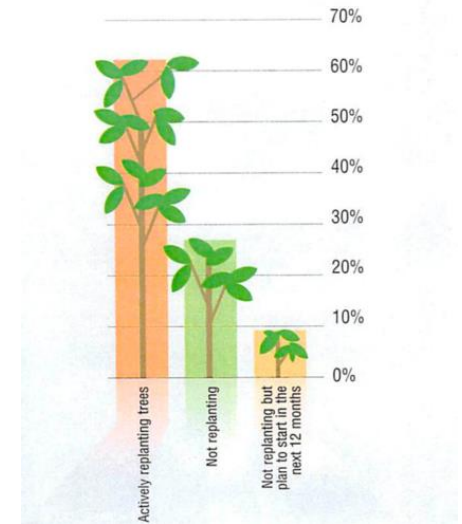
# Grower Sentiment Improves Despite Challenging Year

This year's survey was designed to take the pulse of the Florida citrus industry and uncovered some positives in a year marred by a global pandemic and a disrupted orange juice market. More than 70% of survey respondents note they are actively replanting trees. And a majority believe citrus can be grown in a greening-endemic environment — up from last year's survey.

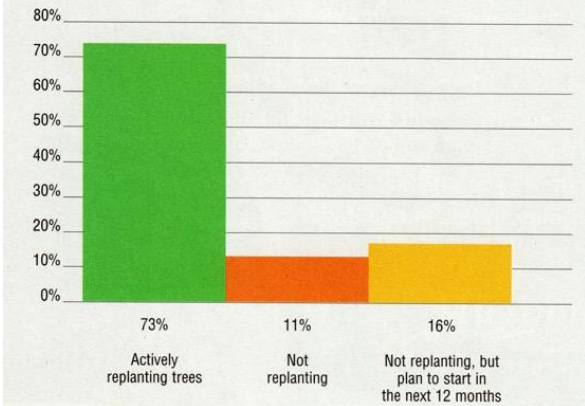
## Do you believe you can continue to grow citrus in a greening-endemic environment?



## Q6 How would you describe your planting status? 2018



## How would you describe your planting program? 2020



**Thank You!**



# CourtSmart Tag Report

Room: SB 110

Case No.:

Type:

Caption: Senate Agriculture Committee Judge:

Started: 10/20/2021 10:00:34 AM

Ends: 10/20/2021 10:36:21 AM Length: 00:35:48

10:00:33 AM Call to order  
10:01:04 AM Chair Rouson opening remarks  
10:01:10 AM Tab 2 is postponed  
10:01:58 AM The gavel is passed to Vice Chair Bradley  
10:02:37 AM Presentation by IFAS on Citrus Greening  
10:02:48 AM Dr. Michael Rogers is recognized  
10:03:31 AM Highlights of accomplishments over the last two years  
10:04:59 AM Discussion of short-term solutions  
10:06:58 AM How to feed and water trees to combat the disease  
10:08:19 AM Another solution IFAS put together a Citrus Nutrition Box Program for growers  
10:11:12 AM Another area of study and solution is Gibberellic Acid  
10:13:20 AM GA applications increased profit by 1,088 per acre  
10:14:50 AM IFAS is also looking at different varieties of oranges for the juice market  
10:17:17 AM Another short-term solution is growing the trees under a protective screen (CUPS)  
10:18:48 AM Highlights of new varieties recently released by IFAS  
10:20:30 AM Coming soon...Gator Bites variety will be released soon and is sweet  
10:21:35 AM Highlights of Long term solutions  
10:25:59 AM Closing comments by Dr. Rogers  
10:26:23 AM Chair comments  
10:26:31 AM Senator Boyd for a question  
10:27:16 AM Senator Perry for a question  
10:27:53 AM Dr. Rogers for a response  
10:29:24 AM Senator Burgess for a question  
10:29:58 AM Dr. Rogers for a response  
10:30:58 AM Senator Thurston for a question  
10:32:54 AM Follow up question  
10:33:31 AM Chair Bradley for a question  
10:35:32 AM Thank you for your presentation  
10:35:55 AM Senator Burgess moves we adjourn  
10:36:04 AM Without Objection we are adjourned

10/20/21

Meeting Date

Senate Agriculture

Committee

The Florida Senate

# APPEARANCE RECORD

Deliver both copies of this form to  
Senate professional staff conducting the meeting

UF/IFAS

Bill Number or Topic

Amendment Barcode (if applicable)

Name Michael Rogers

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City

State

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Speaking:  For  Against  Information **OR** Waive Speaking:  In Support  Against

### PLEASE CHECK ONE OF THE FOLLOWING:

I am appearing without compensation or sponsorship.

I am a registered lobbyist, representing:

I am not a lobbyist, but received something of value for my appearance (travel, meals, lodging, etc.), sponsored by:

*While it is a tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this hearing. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard. If you have questions about registering to lobby please see Fla. Stat. §11.045 and Joint Rule 1. [2020-2022 Joint Rules.pdf \(flsenate.gov\)](#)*

This form is part of the public record for this meeting.

S-001 (08/10/2021)