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For Covid19 Update from UF and IFAS please visit these links:

<http://www.ufl.edu/health-updates/>

<https://ifas.ufl.edu/covid19-information-updates/>

As of today, November 18, 2020 GCREC remains closed to the public. Our research continues with a limited number of essential staff, and we are so grateful for their continued dedication. For information contact Christine Cooley ccooley@ufl.edu. Administrative staff is on site every day, so please call if you need assistance 813-419-6670.



20-Questions Faculty Profile

Meet Dr. Shinsuke Agehara, Assistant Professor

Department of Horticultural Sciences

This is a new feature for our ENewsletter to provide readers some insight both academically and personally on our amazing faculty. So let's get started – here are Dr. Shinsuke Agehara's answers to our 20-Questions request.

Where were you born and what led you to Florida?

Japan, my first job after PhD.

When did you first feel inspired to work in a science field? *College.*

What was your first paying job? *Part-time job as a cook at a chain restaurant.*

What's your perfect pizza? *Margherita pizza.*

When you were a kid, what did you want to be when you grew up? *Archaeologist (Indiana Jones).*

When you're not working on your research, what do you enjoy doing? *Reading, playing with my kids.*

What's your go-to breakfast food? *Just good coffee.*

Mountains or beach? *Mountains.*

What are you most proud of? *My kids.*

A hobby we might not know about? *Painting.*

If you could back five years in your life, what advice would you give yourself? *Take a break and look around once in a while.*

What is your main research focus right now? *Improving nutrient management based on root morphology.*

What is the best part about working at GCREC? *Great employees, facility, growers, location (near Tampa).*

What do you believe is the greatest challenge facing Florida agriculture today? *Competition from imports, labor shortage, and increasing labor cost.*

How do you deal with negative emotions or stress? *Accept them and focus on finding solutions.*

PC or Mac? *PC.*



What would you name the autobiography of your life? *I will not write one...*

What is the most significant development you see coming out of your research area in the coming years? *Developing the hop industry in Florida and other subtropical regions.*

If you could give just one piece of advice to GCREC students, what would it be? *Interact with as many people as possible.*

What is something you learned in the last week? *My son's Chinese writing skill improved a lot (he is staying in Taiwan temporarily and goes to a local school).*

Five New Caladium Cultivars Released and Available for Your Patios, Gardens and Yards

Dr. Zhanao Deng, Professor, Environmental Horticulture

Caladiums are popular ornamental plants valued for their brightly colored leaves. Commercially available caladium plants are grown from bulbs. Florida growers produce all the caladium bulbs used in the United States and some 40 other countries in the world. UF/IFAS's Gulf Coast Research and Education Center has kept an active caladium breeding program since 1976 and has developed and introduced dozens of new caladium varieties in response to Florida growers' needs. This year the Covid-19 pandemic has not stopped us from releasing new caladium cultivars for the growers and consumers. In collaboration with Drs. Natalia Peres (plant pathologist) and Johan Desaege (nematologist), we have released five new caladium cultivars. 'Lava Glow' is a fancy leaf caladium variety that produces many bright red to red-purple, heart-shaped leaves. It has shown excellent tolerance to sunburns and resistance to leaf spot diseases. 'Dots Delight' is a lance leaf variety with white veins and light pink spots. 'Crimson Skye' has a compact stature and produces many heart-shaped leaves with pink blotches. 'Pink Panther' has a novel combination of leaf characters, wide lance leaves, upright and sturdy petioles, deep pink main veins, light pink blotches, and ruffled leaf margins. 'White Lightning' produces large lance-leaves with a large white center and green margins. These new varieties are well suited for growing in containers and in the landscapes from full sun to shady locations. Bulbs for these new cultivars are available at Bates Sons & Daughters (<http://www.caladiumsonline.com/commercial/fancy-caladiums.asp>) and Florida Boys Caladiums (<https://www.floridaboyscaladiums.com/>).



Two New Hemp Fact Sheets – Now available on our website

J.D. Coburn, Grad Student, Dr. Johan Desaege's Lab



Effects of Supplemental Lighting on Hemp Growth in Florida: **What We Know So Far**

Jacqueline Coburn [jd.coburn@ufl.edu] & Johan Desaege [jad@ufl.edu]
University of Florida/IFAS Gulf Coast Research and Education Center

In Central Florida the day length is rather short, averaging 11-14 hours. This is important to note as certain plants have a critical day length, the period of day or light required to regulate flowering.

At UF's Gulf Coast Research and Education Center (GCREC) in Balm, FL, the use of supplemental lighting with LED lights was implemented to control the flowering of hops (*Humulus lupulus*), a member of the Cannabaceae family and whose female flower is a key ingredient in beer.

Hops prematurely flowered under natural Florida conditions due to inadequate day length but, after receiving >17 hours of daylight, produced high yields and vigorous plants that did not flower early in the season.

Hemp (*Cannabis sativa* with <0.3% THC) is also a member of the family Cannabaceae. Just like hops, hemp has a short-day period.



Two field trials were conducted at the **GCREC Farm** in fall (2019) and spring (2020) to evaluate the growth of different hemp cultivars with and without supplemental lighting in natural Florida conditions.

WITH SUPPLEMENTAL LIGHTING

- Hemp plants **did not prematurely flower**
- Total plant **biomass** (height, weight, yield) was **significantly increased**

WITHOUT SUPPLEMENTAL LIGHTING

- Hemp plants **flowered** 1 week after planting and all cultivars used flowered **after 1 month**.
- Overall plant **biomass** was **reduced** in all cultivars (height, weight, yield)



Cherry Blossom x T1
without
supplemental lighting



Cherry Blossom x T1
with
supplemental lighting

Extending the day length in early spring and fall by supplying 6 hours of extra light during the first part of the growing season greatly improved production of all hemp cultivars tested. As is the case for hops, adding supplemental lighting greatly improves hemp production in Florida and will allow growers to produce multiple crops a year.

FOR MORE
INFORMATION



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Desaege Nematology Lab

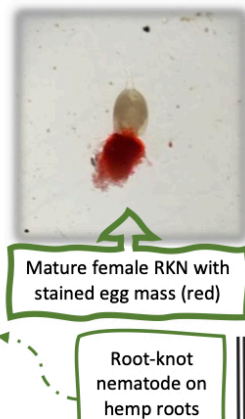
Root-Knot Nematode & Hemp: A Quick Look into Hemp Pests in Florida



Jacqueline Coburn [jd.coburn@ufl.edu] & Johan Desaegeer, PhD [jad@ufl.edu]
University of Florida/IFAS Gulf Coast Research and Education Center

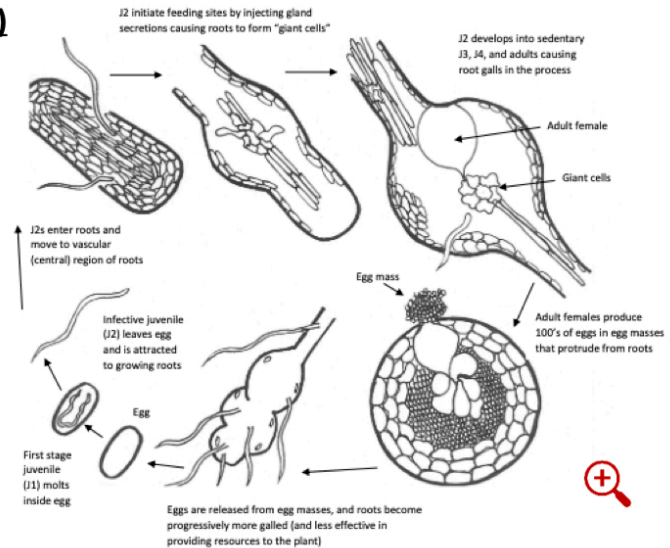
Root-Knot Nematode (*Meloidogyne* spp.)

- ⇒ Microscopic endoparasitic plant parasites
- ⇒ Causes roots to form galls or knots
- ⇒ Causal agent of root-knot disease in many crops
- ⇒ Extremely common in Florida
- ⇒ Worldwide distribution
- ⇒ Wide host range



Mature female RKN with stained egg mass (red)

Root-knot nematode on hemp roots



Hemp:

Cannabis sativa with less than 0.3% THC

- ⇒ delta-9-tetrahydrocannabinol
- ⇒ the psychoactive compound found in cannabis plants

What impact do root-knot nematodes have on hemp?

By conducting two separate greenhouse experiments that focused on the host status and susceptibility of 6 hemp cultivars to a mixed population of root-knot nematode (RKN):

HEMP:

- ⇒ Is a good host for RKN
- ⇒ Has tolerance to RKN
- ⇒ Cultivar differences were seen

- ⇒ Biomass is not negatively impacted*
 - *root weight reduced in some instances when compared to healthy, uninfected roots.
- ⇒ Total THC is not affected by presence of root-knot nematode



Roots stained with 12% red food-dye showing the stained juveniles (pink, arrows) within hemp roots one week after inoculation with RKN eggs. cv. Carmagnola Selezione



To support the future viability and sustainability of hemp, and considering the importance of nematodes in Florida, it is critical to assess the impact that root-knot nematodes may have on this crop



For more information

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Desaegeer Nematology Lab



Hello Fruit and Vegetable Producers,
Join us to celebrate the 29th year of Manatee County's Farm City Week by virtually visiting a few of Manatee County's finest agricultural operations. It is a little different this year but still full of fun. Manatee County vegetable, livestock, shellfish, commercial

fishing, and horticulture operations will be featured during on-farm videos.

Participants will be invited to a special **Virtual Q&A** with producers where they can interact directly.

Where: This will be a Virtual Event

When: November 20, 2020

Farm Tour Videos: 10:30 am - 12:30 pm

Q&A Panel: 12:30 pm - 1:30 pm

The virtual tours this year include, not necessarily in this order: Honeyside Organic Farm, 4-Star Tomato, Longino Ranch, Blackbeard's Ranch, Cortez Bait & Seafood, Two Docks Shellfish, H&H Nursery, and Mariposa Nursery.

[Register Here](#)

Certified Crop Advisors News

Happy to invite you to the second Online UF/IFAS CCA training course for the year 2020! Several of you have emailed me about needing this course soon as the CEUs are required by the end of December. Please read all the information below carefully before you start. This CCA course session is the same as our October session that we offered in all the previous years. This course consists of a total of ten presentations leading to 10 CCA CEUs, out of which 5.0 CEUs will be in Soil & Water and 5.0 CEUs will be in Crop Management.

<https://ifas-nutrientsystems.catalog.instructure.com/browse/cca/courses/november-florida-certified-crop-advisor-training>

Nov-Dec 2020 UF/IFAS
Florida Certified Crop
Advisor Training
Nov 17 - Jan 1, 2021
Already have an account? [Sign in here](#)

Full Name

Email

☐ I agree to the [Acceptable Use Policy](#) and acknowledge the [Privacy Policy](#).

Promotion Code

Total: \$60

If you have trouble enrolling within the course, please contact Melissa De La Paz: mdelapaz@ufl.edu. We are aiming to open the course on Monday, November 16th, however, please look for my next email to confirm the exact date of opening the course. This is to ensure that everything is ready to roll as expected smoothly on our side and all obvious issues are taken care of. The course will be open through January 2021.

Also, please read the following details about this program carefully-

The link above will take you to an information screen, where you put your name, email, and pay the fees by credit card. The registration fee for this session is \$60.00. Once the fee is paid, you will receive an email with login instructions. Keep the login credential safe but handy for accessing during this course period and for future courses too. With your login information, the course and the presentations can be accessed 24x7 during the November and December 2020, at your convenience. The registration is open now and you can register any time. Therefore, we suggest that you register as early as possible so you will have the maximum time and flexibility to complete and earn all the CEUs at your convenience. There is a pre-/post-test for this course that you are all familiar with. Also, there are a few quiz questions built into individual presentations to ensure that the transfer of information is successful. Please note that none of the quizzes or tests are graded. All names will be deleted once the summary data is collected and anonymized. The tests are only to evaluate the effectiveness of our programs and various presentations. There is also an evaluation sheet for your comments/feedback on each of the presentations. Your comments and feedback are extremely important to us and are valued highly.

So, please do not forget to provide your comments. You can access the presentations in any order that you choose. At the end of each presentation, you will find the sign-in sheet with the QR code for the CCA-CEU credits. You will need to download the CCA app on your smart phone in order to scan and the codes and credited for the modules. You will receive the credits instantly.

GCREC in the News

Dr. Andrew Koeser - Florida Urban Tree Canopy Gives Oxygen, Shade - Saves \$4 Billion a Year

<https://florida.growingamerica.com/news/2020/11/florida-urban-tree-canopy-gives-oxygen-shade-saves-4-billion-year>

<https://www.morningagclips.com/florida-urban-tree-canopy-gives-oxygen-shade-saves-4-billion-a-year/>

<https://vscnews.com/florida-urban-tree-canopy-oxygen-shade/>

Dr. Sam Hutton - Tomato juice from Florida variety a hit in taste tests

<https://vegetablegrowersnews.com/news/tomato-juice-from-florida-variety-a-hit-in-taste-tests/>

Dr. Vance Whitaker - Strawberry Breeding

<https://www.aginfo.net/report/47755/Southeast-Regional-Ag-News/Strawberry-Breeding>

University of Florida growing hops to benefit Florida brewers

<https://www.fox13news.com/news/university-of-florida-growing-hops-to-benefit-florida-brewers>

GCREC Publications

Lin, S. and S. Agehara. 2020. Exogenous gibberellic acid and cytokinin effects on budbreak, flowering, and yield of blackberry grown under subtropical climatic conditions. HortScience 1: 1-8.

Agehara, S., L. Pride, M. Gallardo, and J. Hernandez-Monterroza. 2020. A simple, inexpensive, and portable image-based technique for nondestructive leaf area measurements. EDIS 2020 (6).

Latest YouTube videos

Dr. Shinsuke Agehara Lab Presentations by lab members during the Florida State Horticultural Society Annual Conference on October 19-20, 2020.

Image analysis tutorial videos (supplemental information for the EDIS publications)

<https://www.youtube.com/channel/UCMyYAfFZsib6d4ZI-eaxCTQ/playlists>

Dr. Nathan Boyd, Cover Crop Trials - <https://youtu.be/bPE3FCwaSQ0>