

JANUARY 2023 | VOL. 23:01

Citrus from the Ridge to the Valley

CENTRAL FLORIDA CITRUS EXTENSION

January 2023

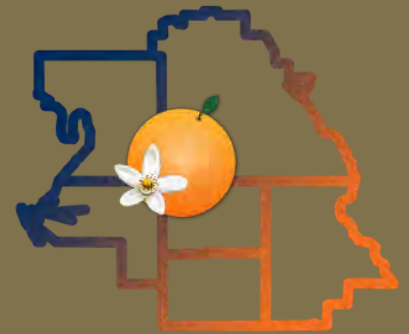
Happy New Year! We hope you all have had a good start to the year and recovered from the hectic yet wonderful holiday season. This year our Extension team will continue to try and provide you with updated information as it becomes available. If there are any topics you would like us to explore in a seminar or workshop, please let us know. Our goal is to provide you with the tools you need to continue to fight through these challenging times.

We have some programs lined up for the next few months that we hope you will attend. Along with the educational information given at Extension meetings and events, remember to be collecting those CEUs too, if you have a restricted use pesticide license or are a Certified Crop Advisor. Please see the next few following pages for the upcoming events and registration information.

In this issue we have also included some important about:

- Winter Weather Outlook
- Post-Bloom Fruit Drop Model
- Flower Bud Advisory
- Salt-out of Liquid Fertilizer
- and more!

**The Foundation for the Gator Nation
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Upcoming Events

Citrus Production School: February 9, 2023

BY AJIA PAOLILLO



The Citrus Production School program is changing this year! The classes will be spread out this year and held on February 9th, May 25th, and September 14th. Class time will be from 10am-12pm, lunch will be provided, and registration will be at no cost. Class location will be at the Turner Agri-Civic Center Exhibit Hall in Arcadia, unless otherwise noted. CEUs for restricted use pesticide holders and Certified Crop Advisors will be requested for each class.

The first class on February 9, 2023 will feature Dr. Fernando Alferez, Assistant Professor of Citrus Horticulture from the UF/IFAS SWFREC, Immokalee. He will be discussing the application of brassinosteroids, a plant growth regulator, to citrus trees. He will provide information on combining brassinosteroid use with individual plant covers (IPC) to promote good tree health. Dr. Alferez will also be providing an update on his research using zinc to reduce fruit drop and increase yields.

Please see the event flyer on page 4 of this newsletter for more information and the registration link on Eventbrite. I hope to see you there!

Citrus Water and Nutrient Management Workshop - February 15, 2023

BY CHRIS OSWALT



The citrus workshop will cover topics related to BMPs, irrigation scheduling and optimizing citrus nutrition and tree health. The workshop will be held on Wednesday, February 15, 2023 at the UF/IFAS Citrus Research and Education Center, BHG Citrus Hall, 700 Experimentation Station Rd. Lake Alfred, FL. For additional information and registration please use the following Eventbrite link:

<https://www.eventbrite.com/e/citrus-water-and-nutrient-management-workshop-tickets-444567111197>.

Safety Morning - March 23, 2023

BY AJIA PAOLILLO



The annual Safety Morning program will be held at the Turner Agri-Civic Center on March 23, 2023 from 8am-12pm. Worker Protection Standard Handler training will be included in this program along with presentations on personal protective equipment (PPE), equipment safety, first aid/heat tress, and decontamination. We are working in collaboration with UF College of Medicine to offer a Farmworker Health Fair during and after the Safety Morning program. UF Health, along with local health care service providers and sponsors will be offering free health screenings and vaccinations to Safety Morning program attendees. Participation in the health fair is completely voluntary. Lunch is being provided by Mosaic to Safety Morning attendees. Registration cost for Safety Morning will be \$5 per person. More details to come soon! Please mark this event on your calanders!

Citrus Fruit Display and Tasting

BY AJIA PAOLILLO

Come out and taste varieties showcased by UF/IFAS, the USDA, and the New Varieties and Development Foundation. Researchers are interested in your opinion of how these new varieties taste and appear. As we know consumer acceptance and preference drive sales. The information you provide during this event is valuable in making decisions about releasing new varieties.



February 15, 2023 1:00PM - 3:00 PM
UF/IFAS CREC CREC, Lake Alfred



2023 Florida Citrus Growers' Institute

The Florida Citrus Growers' Institute. The program will be held on **Tuesday April 4, 2022**, on the campus of South Florida State College's University Center Auditorium in Avon Park. Make plans now to join us for the all-day educational event complete with CEU's for Certified Crop Advisors and Restricted Use Pesticide license holders and lunch. More details on the agenda and registration will be coming soon!

In-Person and Online Citrus Seminar

Coordinator: Dr. Mongi Zekri, Multi-County Citrus Extension Agent, UF-IFAS, SW Florida

Date & time: Tuesday, January 31, 2023 10:00 AM - 12:00 AM

Location: SW Florida Research & Education Center, Immokalee

10:00 AM - 11:00 AM

Title: Life after IPCs. Maintaining health of citrus trees in the long term

Speaker: Dr. Fernando Alferéz, Assistant Professor in Citrus Horticulture, UF-IFAS SWFREC, Immokalee

11:00 AM - 12:00 Noon

Title: What you need to know when using trunk injection to manage HLB

Speaker: Dr. Ute Albrecht, Associate Professor in Plant Physiology, UF-IFAS SWFREC, Immokalee

Pre-registration is required. No registration fee and lunch is free Thanks to Tom Johnson with TJ BioTech, LLC and Meg Wally with Tree Defender, LLC.

--To attend in-person and reserve lunch, e-mail Mongi Zekri (maz@ufl.edu).

--To register and attend via Zoom, here is the Zoom link:

<https://ufl.zoom.us/j/97021441497?pwd=UGdWVEloS3g4OGpoT0ZiaktOb0NSQT09>

After registering, you will receive a confirmation email containing information about joining the Zoom meeting.

2 CEUs for pesticide license renewal and 2 CEUs for certified crop advisors



February 9, 2023
10:00am - 12:00pm

**Using Brassinosteroids and IPCs in Citrus &
Update on How Zinc Can Reduce Fruit Drop
and Increase Yield**

Dr. Fernanado Alferez, Assistant Professor of Citrus Horticulture from the UF/IFAS SWFREC, Immokalee will be discussing these production practices.

Location:

**Turner Agri-Civic Center Exhibit Hall
2260 NE Roan St
Arcadia, FL 34266**



Lunch will be provided by The Tree Defender

There is no cost for this class, however pre-registration is required using this Eventbrite link: <https://citrusprodschoolfeb2023.eventbrite.com>

You may also register by contacting: Aija Paolillo

*UF/IFAS Extension Multi-County Citrus Agent
ajiacunningham@ufl.edu or 863-251-4763*

**2 CEUs for Restricted Use Pesticide License holders will be available in
Private or Ag Tree Crop.**

CEUs for Certified Crop Advisors have been requested

The University of Florida is an Equal Opportunity Institution.

In accordance with the Americans with Disabilities Act and Section 296.26, F.S. persons needing accommodations or an interpreter to participate in the proceeding should notify University of Florida /IFAS DeSoto County no later than 7 days prior to the meeting at 863-251-4763.

2023 Winter Weather Outlook

BY CHRIS OSWALT

The latest NOAA 2023 winter weather outlook for temperature and rainfall has us looking at an increased probability of likely above-normal temperatures (fig 1). The rainfall outlook (fig 2) has us looking at an equal chance of below normal rainfall. The El Nino Southern Oscillation (ENSO) forecast is for La Nina conditions to transition to ENSO-neutral conditions during early 2023 (February-April). There is an 82% chance that La Niña will transition into ENSO-neutral conditions in the spring (March to May 2023).

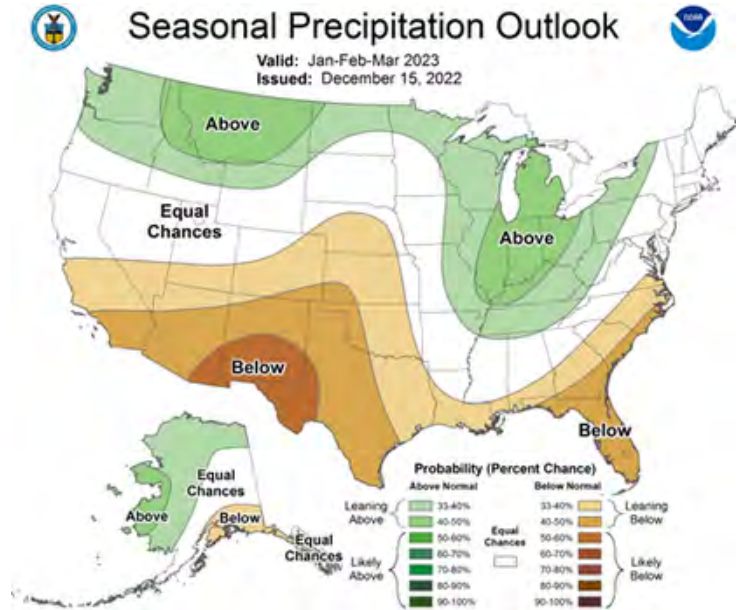
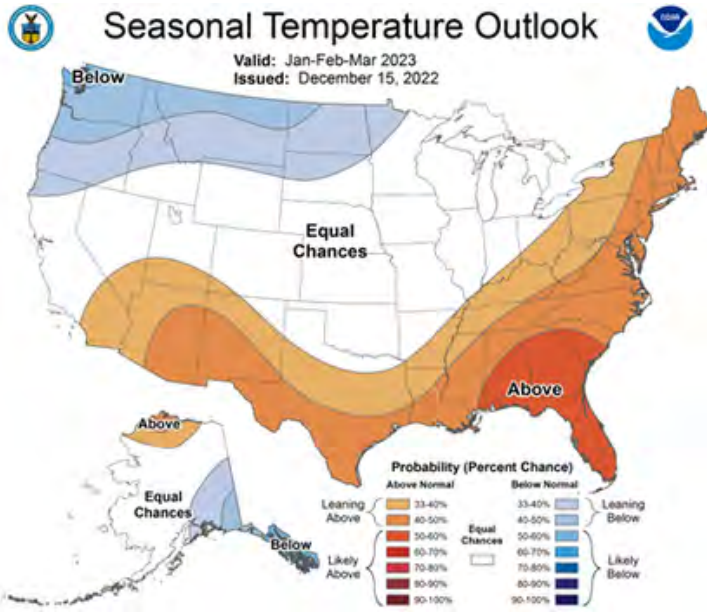


Figure 1. Winter 2023 temperature outlook

Figure 2. Winter 2023 precipitation outlook

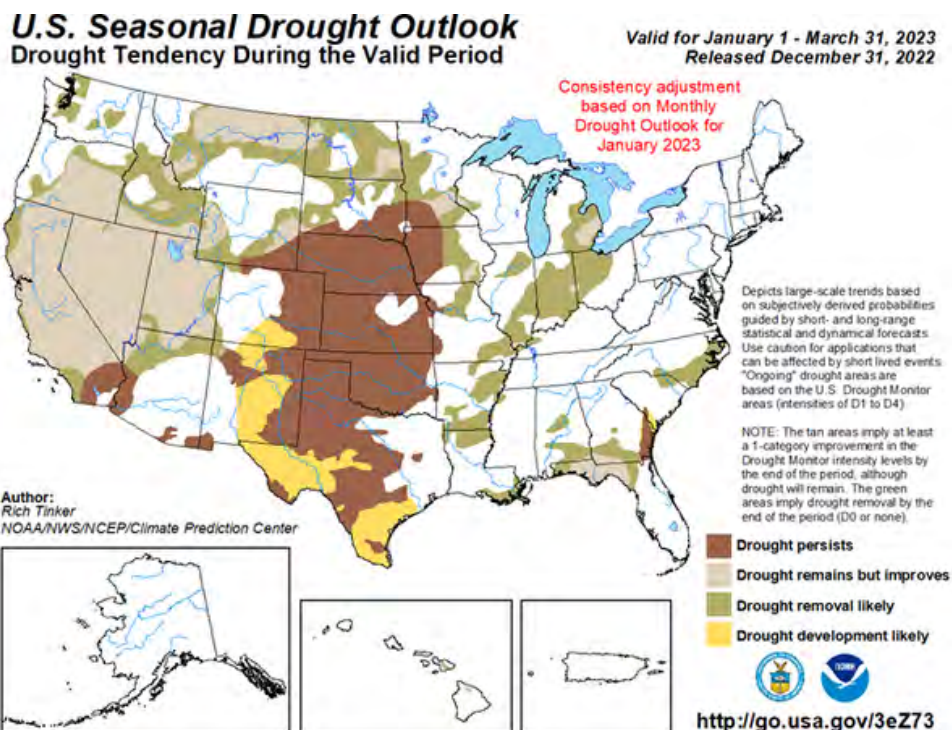


Figure 3. Winter 2023 drought outlook

Post-bloom Fruit Drop Model

BY CHRIS OSWALT

The folks at AgroClimate along with Drs. Natalia Peres and Megan Dewdney, have developed a model to alert growers to when environmental conditions are favorable for post-bloom fruit drop. The model also makes recommendations on when to spray for the disease.

The model resides on the Agro-Climate website (<http://agroclimate.org/>) under the “tools” drop-down menu labeled the “citrus advisory system” (<http://agroclimate.org/tools/cas/>). Once you navigate to this page you will see a map of Florida with traffic light colored disks (red, yellow, or green). The colors indicate PFD risk: red as high, yellow as moderate and green as low.

Once you locate a FAWN weather site near your grove location, clicking on the disk will open a new page where you are able to enter your bloom intensity, flower stage, and previous fungicide applications. The results will provide a recommendation on the need to make a fungicide application for PFD. You can also view at the disease simulation tab where a graph plots past conditions over time, with an additional three-day forecast for disease risk based on the National Weather Service local forecast for the FAWN site.

If you are further interested, there are two additional tabs for daily weather summary “daily weather” and the actual 15-minute weather data “weather” from the FAWN station. The data contains leaf wetness duration (LWD) in hours, average daily air temperature (Temp (F) or (C)) a calculation of the post-bloom fruit drop index (PFD Index) and a signal word for the risk for that particular day. The “weather” page includes temperature, humidity, rainfall amount, leaf wetness (yes or no) LWD, mean temperature, and PFD index.

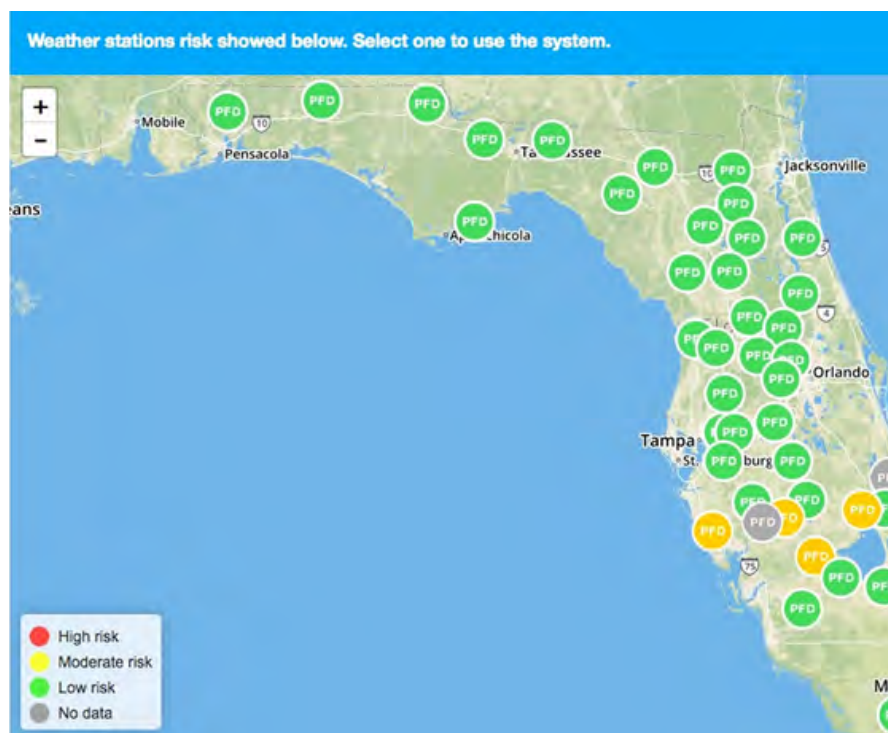
Data used for the risk calculation comes from an accurate model that predicts leaf wetness (that is based on air temperature, dew point temperature, humidity, and wind), air temperature, rainfall, etc. The model incorporates a past history of the disease in the grove, so you are no longer required to enter the past disease severity, buttons present or diseased petals.

It is worth mentioning that rainfall will spread PFD spores, but it is the duration of leaf wetness that increases the risk of infection. Rainfall that extends the duration leaf wetness is more problematic than rainfall occurring when leaves are typically wet (i.e. overnight). This duration is more important to disease risk than the amount of rain.

POST-BLOOM

FRUIT DROP

On the right is the home page of the Citrus Advisory System on the AgroClimate website. The Citrus Advisory System predicts the risk for post-bloom fruit drop using weather data collected and calculated from each of the Florida Automated Weather Station (FAWN) sites throughout





Flower Bud Induction Advisories Now Available

BY AJIA PAOLILLO

This is a reminder that the 2022-2023 Flower Bud Induction Advisories are available online at this time. This advisory report by Dr. Tripti Vashisth of the UF/IFAS Citrus Research and Education Center provides growers with information used to predict the timing of flowering for the season. This information is based on the Citrus Flowering Monitor (figure 1), which is a model that uses area FAWN stations, cultivar type, tree age, soil type, and the current date to give predictions of when flowering is expected to occur and how many bloom events to expect. The model shows the flower bud induction levels from October through April (figure 2) based on the information provided by the grower. Trees begin to accumulate induction hours at temperatures below 68 degrees F. Induction hours are accumulated as we get hours of cooler weather. During the late fall and early winter bud differentiation occurs, which means the citrus buds will sprout as either flowers or vegetative growth. Warm spells that occur intermittently during times in which we typically encounter cold weather, can induce bud initiation resulting in multiple bloom events. Therefore, it is important for growers throughout the fall and winter to track how many induction hours the trees have accumulated and monitor weather forecasts for potential warm periods. In the advisories, Dr. Vashisth provides a summary of current conditions and what this could mean for flowering events along with considerations for managing flowering in HLB infected trees. She also provides important considerations for timing of gibberellic acid (GA) applications and the effects growers can expect from these sprays. Timing of GA sprays is critical to avoid negative effects on flowering.

The advisories can be found at <https://crec.ifas.ufl.edu/research/citrus-production/flower-bud-induction/>. You can also run the Flowering Monitor using your specific information and the model can be found at <http://disc.ifas.ufl.edu/bloom/model.jsp>. The information provided by these two resources can be used by growers in making decisions about spray timing for psyllid control before flowering flush and management of Post-Bloom Fruit Drop to reduce inoculum, especially during prolonged bloom periods and wet weather.

Citrus Flowering Monitor

Weather station: LAKE ALFRED
Cultivar: Valencia
Expected Yield: Average/low
Tree age: 4 or more years
Soil type: Deep sands
Date (mm/dd/yyyy): 12/08/2022

Run the model Reset

Figure 1. Example of Citrus Flowering Model with site, fruit, and date specific information

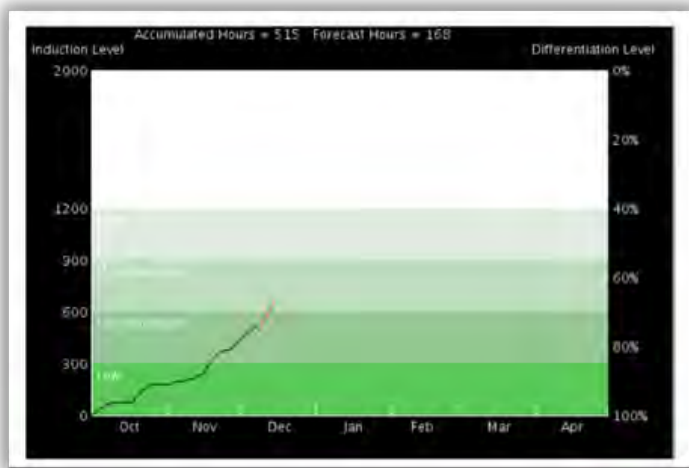


Figure 2. Example of accumulated induction hours based on site, fruit, and date specific information



Image Credit: iStock Photos, SWInsider

Salt-out of Liquid Fertilizers

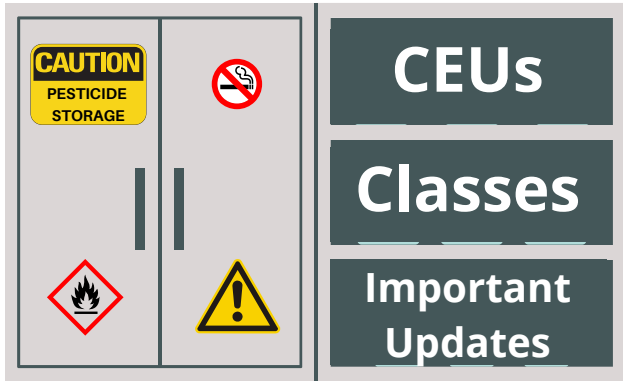
BY AJIA PAOLILLO

The use of liquid fertilizers in citrus production has increased over the years. Liquid fertilizers offer the grower a way of applying frequent doses of fertilizer to trees, to optimize nutrient efficiency. Now that we are in the winter months with cooler weather and some cold nights, an issue growers may face is liquid fertilizer salting-out in the holding tanks. The term salting-out refers to the fertilizer solids coming out of solution and forming crystals or sediment in the bottom of the tank. This typically happens to higher analysis liquid fertilizer solutions when low temperatures occur. In many cases, the solids are difficult to mix back into solution, causing the fertilizer to not be as effective and the solids could cause clogging issues in the irrigation lines.

The temperature in which a fertilizer has the potential to salt out is related to the chemical analysis, nutrient sources, and the solubility of these materials in the solution. Different materials have different solubility rates, at different temperatures. It is important to remember that various combinations of nutrient materials will also change the temperature at which the solids in the fertilizer will begin to come out of solution and crystallize in the tank. If you choose to apply liquid fertilizer during the winter months, be aware of the potential for the this, and purchase fertilizer with formulations that are more stable during our winter temperatures.

During these next months, while the cold weather is upon us, take these steps to help reduce the potential for clogging of the lines and emitters due to fertilizer salt out. Before running the fertilizer through your irrigation system, check the holding tank for signs of crystallization and sediment. Agitate the liquid in the tank to attempt to dissolve the solids back into solution. If the solids will not dissolve back into solution, wait until the weather is warmer and attempt agitation again.





The Pesticide Cabinet

Your central location for upcoming CEU workshops, pesticide license exam review classes, and more.

Don't forget to be earning CEUs!

Remember your pesticide license is only valid for 4 years. You can renew by earning CEUs or taking the exams again.

How many CEUs do you need?

- Private - 4
- Ag Tree Crop - 8
- Aquatic - 16
- Orn & Turf - 12



Everyone needs 4 CEUs in Core in addition to the required CEUs in your category



- Natural Areas - 16
- Right of Way - 8
- Ag Row Crop - 8
- Demo & Res. - 4

General Standards Core Exam Review Class

Date: Thursday February 16, 2023 **Time:** 8:30am-12:30pm
Location: UF/IFAS Extension DeSoto County
 2150 NE Roan St
 Arcadia, FL 34266
Cost: \$15/class \$26/study guide (limited quantities available)
Instructor: Ajia Paolillo
Registration: <https://corereviewclass021623.eventbrite.com>

This class will review the required information for the General Standards Core exam to obtain restricted use pesticide licenses in Florida

4 CEUs available in:
Core

Private and Ag Tree Exam Review Class

Date: Thursday February 23, 2023 **Time:** 8:30am-12:30pm
Location: UF/IFAS Extension DeSoto County
 2150 NE Roan St
 Arcadia, FL 34266
Cost: \$15/class
Instructor: Ajia Paolillo
Registration: https://private_agtreereviewclass022323.eventbrite.com

This class will review the required information for the Private and Ag Tree Crop exams to obtain restricted use pesticide licenses in Florida

4 CEUs available in:
Private or Ag Tree Crop
(Max of 4 CEUs)

CEU Reminder!

4 Core CEU's are always available online through Citrus Industry magazine <https://citrusindustry.net/ceu>

Read the articles and take the quizzes also

Most of our events, both in-person and online also offer CEUs



Are you interested in being a sponsor for this newsletter?

**IF YOU BECOME A SPONSOR, YOUR
INFORMATION WILL BE FEATURED IN THE
10 ISSUES OF THIS NEWSLETTER FOR 2023.**

For pricing and other information, please contact

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