

Citrus Notes



Chris Oswalt
UF/IFAS Citrus
Extension Agent
for
Polk &
Hillsborough
Counties

IMPORTANT DATES

FEBRUARY 13, 2018

OJ BREAK MEETING
Lake Alfred

MARCH 7, 2018

**CITRUS ROOTSTOCK
FIELD DAY**
Babson Park

APRIL 3, 2018

**FLORIDA CITRUS
GROWERS' INSTITUTE**
Avon Park

CONTACT INFO

POLK COUNTY EXTENSION SERVICE

PO Box 9005, Drawer HS03
Bartow, FL 33831
(863) 519-1052
Email: wcoswalt@ufl.edu

HILLSBOROUGH COUNTY EXTENSION SERVICE

5339 County Road 579
Seffner, FL 33584
(813) 744-5519
Ext. 541231

February 2018

OJ Break



The February 2018 OJ Break will be held on Tuesday, February 13, 2018. We have

invited Dr. Ariel Singerman, Extension Economist from the UF/IFAS CREC, to discuss citrus crop insurance and what they can provide as a risk management tool to your citrus operation. He will also be presenting recent information on the economics of new citrus groves.

Our February OJ Break lunch sponsor is Mark White and Buddy Putnam, from G.P. Solutions. Registration is required (see details below).

This month the OJ Break will be held at **Ben Hill Griffin Jr. Citrus Hall, located at the UF/IFAS Citrus Research and Education Center**, 700 Experiment Station Road, Lake Alfred, FL. The OJ Break will begin at 11:00 a.m. on Tuesday, February 13, 2018, concluding after lunch.

Registration deadline is Friday, February 9, 2018. To register please contact Gail Crawford by phone at 863-519-1042 or email at dorothy@c@ufl.edu or by using the following eventbrite link: <https://polkojbreakfeb18.eventbrite.com/>.

Citrus Research and Development Foundation (CRDF)

Citrus Rootstock Field Day

On Wednesday, March 9, 2018, beginning at 9:30 a.m. there will be a

Citrus Rootstock Field Day sponsored by CRDF and Peace River Packing Company. The rootstock trial is one of a large replicated multi-location trial looking at HLB tolerant rootstocks all on Valencia scions. The trial has both UF and USDA rootstocks. We will have a program flyer and registration information in the February edition of the Citrus Notes.

2018 Florida Citrus Growers' Institute

The date has been set for this year's Florida Citrus Growers' Institute. The Institute will be held on Tuesday, April 3, 2018, at South Florida State College in Avon Park. We are currently finishing up this year's program agenda and will have a program brochure out by the first part of March.

New WPS Rule is to be in effect in February 2018

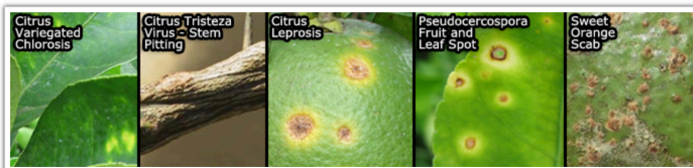
Last year the 2015 revised version of the Worker Protection Standards (WPS) was put on hold by the Federal government. Now it is coming back again. Florida expects to adopt it as a rule by late February, so growers need to start training based on the 2015 version of WPS. *(continued on page 3)*.

UF | IFAS Extension
UNIVERSITY of FLORIDA

The Foundation for the Gator Nation

An Equal Opportunity Institution

Exotic Citrus Diseases



Exotic Citrus Diseases are NOT found in Florida but...
If you suspect any of these diseases in your grove

Report It!

FLORIDA CITRUS EXOTIC DISEASES

UPDATED WEBSITE

The updated website contains detailed information on five exotic citrus diseases not found in Florida: citrus variegated chlorosis, citrus trustees virus - stem pitting, citrus leprosis, pseudocercospora fruit and leaf spot and sweet orange scab. Link below:

http://www.crec.ifas.ufl.edu/extension/plant_pathology/exotic.shtml

Section 18 Recertification of Citrus Bactericides

The Florida Commissioner of Agriculture was notified on January 17, 2018 that the Citrus Tree Health Section 18, authorizing emergency use of specific bactericides, was recertified by EPA for the 2018 calendar year (letter attached). Minor revision to product labels is being completed, and these labels will be available soon. The Commissioner is awaiting these revised labels to formally announce the recertification.

As this renewal process unfolds, the Commissioner understands the importance of these products and their timing of use in light of current citrus crop scheduling and recognizes the need to get this approval notification out to growers as soon as possible.

The Conditions for the use of the three products covered under the Tree Health Section 18 (Firewall™ 50 WP, Fireline™ 17WP, and MycoShield®) have not changed from those in place over the past two years under the Section 18 Emergency Use. Revised labels showing the updated certification numbers will be available soon, and should be followed closely as applications of these products resume. Previous Section 18 labels specify the conditions for use and can be used in the interim.

The letter from the Agricultural Commissioner which recognizes the recertification by EPA of the Tree Health Section 18 is expected before end of Friday and will be distributed when available. The industry greatly

appreciates the outstanding efforts of the commissioner and his staff in working with the industry on the timely assembly and submission of the request for recertification, and his commitment and that of the Florida Department of Agriculture and Consumer Services to work with the citrus industry in putting these tools to work.

Please see attached the letter from EPA which authorizes the Tree Health Section 18 Recertification. (Source CRDF)

Flower Bud Induction Advisory #5 For 2017-2018 - 1/17/18

This is a service to our citrus growers posted on the CREC website. The indicated Expert System on intensity and time of bloom can be accessed at the designated Web Site: <http://disc.ifas.ufl.edu/bloom>

If you are not familiar with the website and flower bud induction in citrus you should read the overview section in the first advisory this year.

The on-line version has been updated so that you can shift from one FAWN weather site to another without back tracking. More FAWN sites have been added to the menu. Another added feature is that the total accumulated hours is now listed as is the projected hours to be accumulated the following week. **The Immokalee site is not working properly. Computer technical people are trying to fix the problem.**

Current status: We now have December flower bud growth initiation indicated for all sites except the Indian River. The first wave or cohort of flower buds initiated growth about mid-December with 630 to 780 hours of induction, respectively, from south to north citrus areas. Palmdale and perhaps Immokalee initiated growth a little later. **The projected bloom dates for this cohort of flowers are now from February 21 to 24, except for March 4 and 16 for Lake Alfred and Palmdale, respectively, according to the Citrus Flowering Monitor System.** Again this year, the bloom dates do not follow a sequential date pattern from south to north. There have been an additional 500 inductive hours since the first flowering wave was initiated. The weather service predicts an additional 140 hours of inductive temperatures this coming week, with most areas having 3 days of cooler temperatures, one at or near freezing.

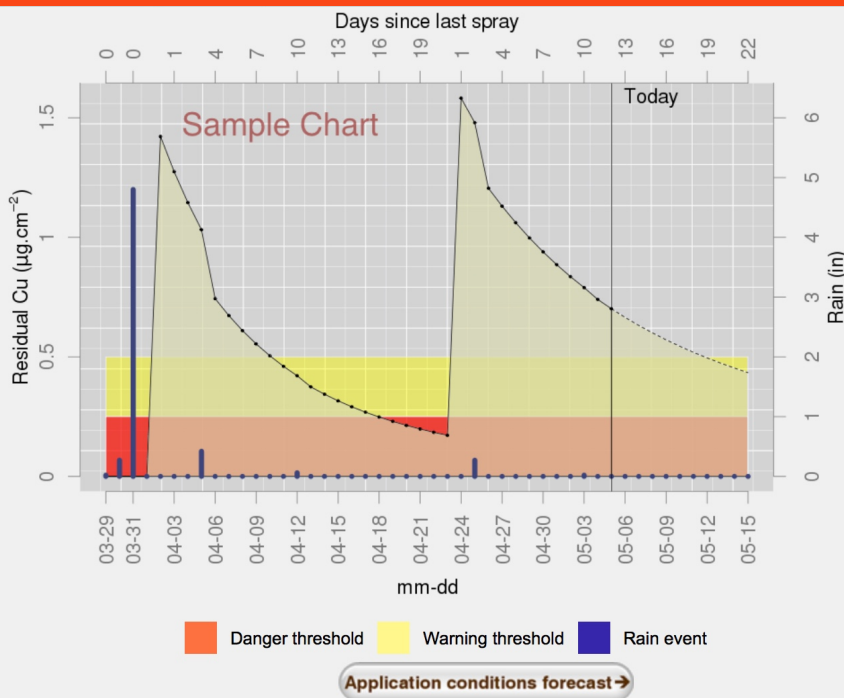
Since the first flowering wave was initiated with only 630 to 750 hours of induction, a second wave of flowering is very likely. A second flower bud cohort is indicated for Arcadia and Mayo (I have an interested grower there). It is likely that all areas will have two cohorts of flowers. It is also likely that the full bloom dates will be a little later than now indicated because of the consistent cool weather through January. The model has probably not caught up yet and the next three cold days should also slow down bud development. *(continued on page 3).*

CITRUS COPPER

SPRAY SCHEDULE MODEL

As we enter the spring flush season, citrus fungal diseases need to be controlled on fruit destined for the fresh fruit market. There is a model available on the Florida Automated Weather Network or FAWN that can help growers determine when it would be time to make a copper fungicide application.

This model uses data from the FAWN weather stations to determine when copper residues drop below a protective residual level for citrus fruit.



New WPS Rule is to be in effect in February 2018 (from page 1)

At first the inspectors will be helping you to comply and get up to speed with the new revisions instead of being in a regulatory mode, but they plan to start enforcing the new rule as soon as it becomes a rule.

There are still several areas that EPA is making decisions about:

1. The Application Exclusion Zone (AEZ)
2. Minimum age 18 years of age
3. Definition of designated representative and that this causes a 2 year record keeping requirement.

There is a fourth concern in Florida and that is the change in the definition of enclosed structure and the restrictions on what can be sprayed in an enclosed structure. Hoop house and high tunnels would now be considered an enclosed structure. One of the restrictions of concern is that fumigants cannot be used in an enclosed structure, which could limit what growers are doing in these other types of structures.

One big change is that all workers will be trained annually and records are to be kept for 2 years. There is no grace period like before-workers are to be trained before they go into the field and could possibly come into contact with any pesticide residue. For a list of the changes between the "old" WPS and the 2015 revised version this website has the information. https://www.epa.gov/sites/production/files/2017-01/documents/comparison_chart_wps_011117_cwph.pdf

Also training content for workers and handlers is to be expanded and was to start in 2018, but it has not been released yet and it could be we will have to wait till 2020 for that. This brings up the issue of the training material you are using now. On a conference call with EPA we were told the materials used for training needed to have EPA an approval number for you to be in

compliance with what you are using to do the trainings. If you are using old materials that were produced many years ago, they may not have an EPA approval number, and you may be out of compliance using them. At this time I do not have a list of approved materials but will be trying to get a list, so check back with me if you need to be sure your training materials are approved.

This is a link to the new safety poster that needs to be displayed. <http://pesticideresources.org/wps/cp.html> You can print the posters yourself or purchase them.

Watch out for more information on the 4 areas that decisions are being made on and the new training content information. (Source: Alicia Whidden, Extension Agent Hillsborough County).

Flower Bud Induction

Advisory #5 (from page 2)

If you didn't apply a flowering enhancement spray of urea or PO₃ at the beginning of initiation of the current flowering wave, it is now too late. I don't advise applying a spray at the beginning of a second wave since over 800 hours of induction has been accumulated, sufficient for a good two-part spring bloom. **I know some of you sprayed. Tell me if I'm wrong about it probably not helping.**

Last week we saw a little bud swell for the coming spring bloom and a small amount of flush and bloom from earlier off-season growth.

For spring psyllid control: The small amount of flush associated with a little flowering had a few nymphs and eggs.

For bee keepers. I think the bloom will be delayed until March and earliest 10 % open flowers will likely be late February. I will keep you posted on a weekly basis.

If you have any suggestions or questions, please contact me (albrigo@ufl.edu).

FDACS/Office of Ag Water Policy Rule 5M-1

Attention farmers and ranchers. We want to give you a heads-up about a recent rule associated with the Florida Agricultural Best Management Practices Program (BMPs) that was written by the Department of Agriculture and Consumer Services (FDACS) Office of Water Policy (OAWP), and was passed by the legislature.

Implementation Verification Rule 5M-1 provides regulatory assurance to FDACS and the Florida Department of Environmental Protection (DEP) that BMPs designed to meet watershed restoration goals are being implemented by Florida farmers and ranchers.

DEP has tested waterbodies throughout the state and has designated many of them to be impaired below state standards. To improve water quality in these systems, DEP, along with many stakeholders, has established Basin Management Action Plans (BMAPS) statewide.

To address these impairments DEP and stakeholders are implementing strategies to reach BMAP nutrient or bacteria reduction goals. As part of these strategies, regulatory agencies are utilizing environmental permitting to meet their goals while other entities, including counties and local governments that contribute non-point sources of pollution to waterbodies, use other methods to accomplish BMAP objectives. Agriculture is using FDACS-Adopted BMPs to meet water quality goals.

Florida Agriculture BMPs have been extensively used statewide for about two decades. Farmers and ranchers throughout the state have signed Notices of Intent (NOIs) to Implement BMP's with FDACS OAWP and are presumed to be in compliance with state water quality regulations. However, best practices and technology change over time and DEP needs assurance that farmers are still implementing the applicable practices on their NOIs. Because of this, FDACS

OAWP developed the Implementation Verification Rule 5M-1.

This rule states that FDACS will verify the BMP Implementation status of agriculture by using self-verification and site visits by staff along with information gathered from other agencies and property appraisers. The information gathered by FDACS is confidential and exempt from public records disclosure.

FDACS OAWP will begin sending self-verification e-mails and letters to producers beginning in January 2018. **It is important that you fill out and return the questionnaire.** If you have any questions or issues with filling out the forms, please do not hesitate to call your Extension Agent for help with any production questions. You may also call a UF/IFAS BMP Implementation Team member or FDACS OAWP staff for any other questions.

(Source: Jemy West Hinton, UF/IFAS BMP Program)

Amistar Top fungicide

John Taylor of Syngenta asked that we pass on the following information about one of their products.

As we look forward to the 2018 production season I wanted to share with you an important change in our fungicide portfolio for citrus. Effectively immediately we are introducing Amistar Top fungicide. This is a premix combination of the active ingredients azoxystrobin and difenoconazole. This product is identical to the existing product Quadris Top in all regards and our local best use guidelines remain the same for 2018. Amistar Top provides us with a differentiated fungicide brand that allows us to better focus on the specific needs of the Florida citrus grower. Amistar Top has been approved by the state of Florida and is ready for immediate use.

DuPont™ Vydate® L

Breanna Lawyer of Dow AgroSciences asked that we pass on the following information about Vydate.

DuPont™ Vydate® L insecticide/nematicide has received registration and will now be available in mid-January 2018 for order in 2x2.5 jugs and 200L tote pack sizes as was previously.

Leaf Wetness Available at AgroClimate

As we enter the spring bloom period an additional tool is available for helping to monitor conditions favorable for post-bloom fruit drop (PFD) and that is leaf wetness. The data is available for the following FAWN weather stations in our area: Lake Alfred, Dade City, Dover, Balm, Frostproof, Sebring, Ona, Arcadia and Joshua. The following link displays a map of Florida (<http://agroclimate.org/tools/bas/>). Although the data is for blueberry diseases, the leaf wetness data can be found by clicking on a weather station. Once the popup window opens, click on the "display simulation link" and then click on the "daily summary" tab at the top of the graph. The column labeled LWD is the leaf wetness data.

PFD overwinters in the persistent buttons and when conditions become favorable during bloom, this source of inoculum will infect the flower petals. Rain-splash and wind-blown rain further move the disease in the tree canopy. This rain, coupled with extended periods of leaf wetness, lead to significantly severe populations of the disease. Infection under the right conditions can occur in 24 to 48 hours, with new symptoms developing in 4 to 5 days.

There are a number of fungicidal materials that are recommended in the 2017-18 Florida Citrus Production Guide (<http://www.crec.ifas.ufl.edu/extension/pest/PDF/2017/Introduction.pdf>). Spray applications made by ground or by air are effective and **timing is critical**. A numerical model is provided in the spray guide and online at: <http://pfd.ifas.ufl.edu/> to help determine the optimum timing of spray applications.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

Florida Department of Agriculture and Consumer Services
Pesticide Registration Section; 3125 Conner Blvd. (Bldg. 6)
Tallahassee, FL 32399

Date Issued: JAN 17 2018
Expiration Date: December 31, 2018
Report Due: June 30, 2019
File Symbols: 18FL01 (Oxytetracycline)
18FL02 (Streptomycin)

Attn: Charlie Clark

The Environmental Protection Agency hereby re-issues specific exemptions under the provisions of section 18 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, to the Florida Department of Agriculture and Consumer Services (FDACS) for uses of oxytetracycline and streptomycin in citrus infected with huanglongbing or citrus greening disease (caused by *Candidatus liberibacter asiaticus* (Clas)).

These exemptions are subject to the product use directions and conditions and set forth in FDACS's request dated November 8, 2017, and as detailed in the following conditions, modifications, and restrictions:

1. The Florida Department of Agriculture and Consumer Services (FDACS) is responsible for ensuring that all provisions of these specific exemptions are met. FDACS is also responsible for providing information in accordance with 40 CFR 166.32(b). Accordingly, reports summarizing the results of these uses must be submitted to EPA Headquarters and the EPA Regional office within 6 months following the expiration of these exemptions, or prior to requesting subsequent specific exemptions for these uses. In accordance with 40 CFR 166.32(a), these offices shall also be immediately informed of any adverse effects resulting from use of these pesticides in connection with these exemptions. Any future correspondence regarding these exemptions should refer to file symbols 18FL01 (oxytetracycline) and 18FL02 (streptomycin).
2. The registered product, FireWall™ 50 WP, EPA Reg. No. 80990-3, manufactured by AgroSource, Inc. (containing 65.8% streptomycin sulfate, equivalent to 50% streptomycin) may be applied. All applicable use directions, restrictions, and precautions on the EPA-registered product label, must be followed, as well as those on the section 18 use directions for FireWall™ 50 WP provided in the submission to EPA. Three (3) foliar applications may be made by ground only (airblast spraying) at a rate of 11 oz. product (0.45 lb. a.i.) per acre. A 21-day retreatment interval and a 40-day PHI must be observed. The total applied per year must not exceed 33 oz. of product (1.35 lb. a.i. as streptomycin sulfate) per acre.
3. The registered product, FireLine™ 17 WP, EPA Reg. No. 80990-1, manufactured by AgroSource, Inc. (containing 18.3% oxytetracycline hydrochloride, equivalent to 17% a.i. as oxytetracycline) may be applied. All applicable use directions, restrictions, and precautions on the EPA-registered product label, must be followed, as well as those on the section 18 use directions for FireLine™


17 WP provided in the submission to EPA. Three (3) foliar applications may be made by ground only (airblast spraying) at a rate of 1.5 lb. product (0.255 lb. a.i.) per acre. A 21-day retreatment interval and a 40-day PHI must be observed. No more than 4.5 lb. of product (0.765 lb. a.i.) may be applied per acre per year.

4. The registered product, Mycoshield[®], EPA Reg. No. 55146-97, manufactured by NuFarm Americas, Inc. (containing 31.5% oxytetracycline calcium, equivalent to 17% a.i. as oxytetracycline) may be applied. All applicable use directions, restrictions, and precautions on the EPA-registered product label, must be followed, as well as those on the section 18 use directions for Mycoshield[®] provided in the submission to EPA. Eight (8) foliar applications may be made by ground only (airblast spraying) with a solution of 200-300 ppm (1-1.5 lb. product per 100 gal of water) equivalent to 0.17 - 0.255 lb. a.i. per acre. A 21-day retreatment interval and a 21-day PHI must be observed. The total applied per year must not exceed 12 lb. of product (2 lb. a.i.) per acre.
5. If multiple products containing oxytetracycline compounds are applied, their maximum combined application may not exceed 2 lb. a.i. oxytetracycline per acre per year.
6. If vehicles with closed systems or enclosed cabs are used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.
7. If not in enclosed cabs as per the previous item, applicators and other handlers must wear the following Personal Protection Equipment (PPE), which must be listed on the section 18 use directions:
 - Long-sleeved shirt and long pants
 - Shoes plus socks
 - Chemical-resistant gloves
 - Protective eyewear (goggles, face shield, or safety glasses)
 - A NIOSH-approved particulate respirator with any N, R, or P filter with NIOSH approval number prefix TC-84A; or a NIOSH-approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C.
 - Chemical-resistant headgear ensuring full coverage of the neck.
8. Applications may not be made by irrigation or air.
9. Applications may not be made in groves in which current practices include fertilization with animal manure or human biosolids. This restriction addresses concerns that resistance could be transferred to E. coli or other pathogenic bacteria in the feces.
10. A restricted entry interval (REI) of 12 hours must be observed.
11. When feasible, rotate applications of one bactericide to another involving a different mode of action to mitigate risks for selection of resistant organisms.
12. A maximum of 330,254 acres of citrus may be treated under these specific exemptions.
13. Residues of streptomycin resulting from applications made in accordance with the exemptions are not expected to exceed 2 ppm on citrus fruit and 6 ppm on dried citrus pulp. Residues of

oxytetracycline resulting from applications made in accordance with the exemption use are not expected to exceed 0.40 ppm in/on citrus fruit. EPA has determined these levels are adequate to protect public health, and time-limited tolerances are established to cover any residues resulting from use under these exemptions.

14. These exemptions expire December 31, 2018.
15. FDACS and its partners must conduct field testing and monitoring to determine whether microbial resistance to oxytetracycline or streptomycin is occurring due to these uses under section 18. Testing must take place according to the revised protocols for resistance monitoring testing, previously agreed upon with EPA. Results from the testing must be provided to EPA when available. Status updates must be provided with any future requests for these uses.
16. This is the third year that FDACS has requested emergency exemptions for the use of oxytetracycline and streptomycin in citrus for management of HLB. FDACS and its partners are encouraged to continue to aggressively research alternative methods of mitigating this disease. An update on these efforts must be submitted with any future requests.
17. In the event FDACS requests these uses next year under emergency exemptions, EPA is making a preliminary determination, contingent upon submission of updated information on resistance monitoring, that these uses are eligible under the re-certification program (40 CFR 166.20(b)(5)) in 2019.

If you or your staff have any questions with respect to this authorization document, please contact Emergency Response Team Member Andrea Conrath at 703.308.9356; conrath.andrea@epa.gov or the Emergency Response Team Leader Tawanda Maignan at 703.308.8050; maignan.tawanda@epa.gov.


Michael L. Goodis, Director
Registration Division
Office of Pesticide Programs

Date: January 17, 2018

cc: Phillip Beard
USEPA Region 4

Patricia Livingstone
USEPA Region 4 Tribal Coordinator