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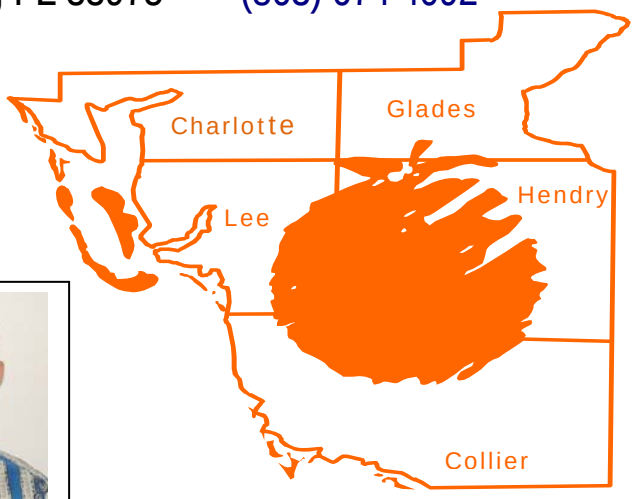
Flatwoods Citrus



Vol. 15, No. 5 **May 2012**

Dr. Mongi Zekri
Multi-County Citrus Agent, SW Florida

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Previous issues of the Flatwoods Citrus newsletter can be found at:
http://citrusagents.ifas.ufl.edu/agents/zekri/index.htm
http://irrec.ifas.ufl.edu/flcitrus/

I M P O R T A N T E V E N T S

--June Seminar

Date: Thursday, June 28, 2012, Time: 10:00 AM – 12:00 Noon

Location: Southwest Florida REC (Immokalee)

1. Citrus genome sequence and its implications– Dr. Fred Gmitter, Lake Alfred CREC, UF-IFAS
2. Economics of citrus advanced production systems– Dr. Fritz Roka, Southwest Florida REC, UF-IFAS
3. Transgenic citrus trees and citrus greening (HLB) resistance– Dr. Ed Stover, USDA-ARS-Fort Pierce

2 CEUs for Certified Crop Advisors (CCAs)

No registration fee and lunch is free, but **pre-registration is required.**

To reserve your seat, call 863 674 4092 or send an e-mail to: maz@ufl.edu

CITRUS EXPO

IN FORT MYERS

Wednesday, August 15 &
Thursday, August 16, 2012

Preregister for Citrus Expo online

www.CitrusExpo.net

I M P O R T A N T W E B S I T E S

Citrus Extension: http://www.crec.ifas.ufl.edu/extension/

Citrus Health Management Areas (CHMAs):

http://www.crec.ifas.ufl.edu/extension/chmas/chma_overview.shtml

Florida Citrus Extension Agents:
http://citrusagents.ifas.ufl.edu/Citrus_Agents_Home_Page/Citrus_Agents_Home.html

Florida Citrus Resources: http://irrec.ifas.ufl.edu/flcitrus/

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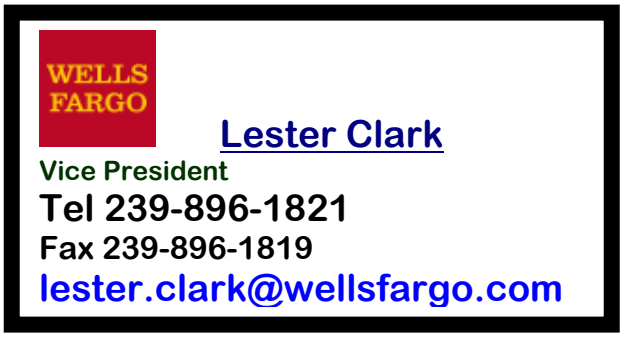
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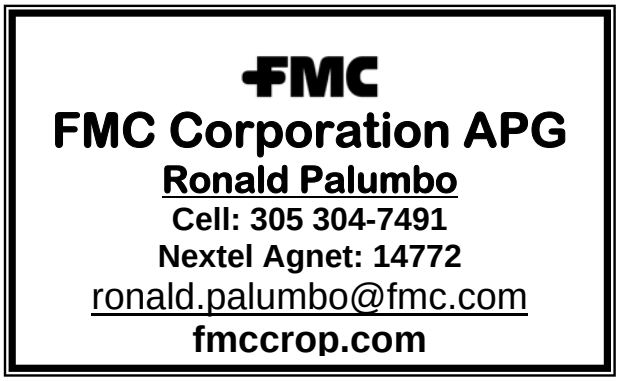
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SECC Summer Climate Outlook

http://agroclimate.org/forecasts/current_climate_outlook.php

Current Conditions: Drought impacting much of the Southeast. Florida began its dry season (November through April) relatively drought-free thanks to a fairly normal summer convective rainy season and two October storm systems. These systems restored water levels to Lake Okeechobee and the Kissimmee chain of lakes that feed it. However, due in large part to a second winter in a row with La Niña in the Pacific Ocean, drought has been once again developing over Florida and persisting in Georgia and Alabama over recent months.
The latest U.S. Drought Monitor shows drought conditions ranging from D0 and D1 (moderate drought) in the Carolinas to a broad area of D3 and even D4 in North Florida and Southwest Georgia. D4, or exceptional drought, is the highest designation for drought and corresponds to a 1 in 50 or 1 in 100 year event. The drought conditions in Georgia and North Florida are largely the result of two La Niña winters in a row, which are known to bring drier than normal climate patterns to the area. These regions depend on winter and spring rainfall to recharge surface and groundwater, so two dry winters in a row have had a cumulative effect.

The Pacific Ocean returns to normal after a second year of La Niña. Last winter (2010/2011) we were under the influence of one of the stronger La Niña episodes of the last 50 years. La Niña is the development of colder than normal ocean temperatures along the equator in the Pacific Ocean that usually stretches from the coast of South America to the International Date Line. La Niña can be thought of as the opposite of the better-known El Niño, where the same area turns abnormally warm. These events return every two to seven years and have big impact on the climate in selected regions of the United States.
Last summer the strong La Niña persisted into May before ocean temperatures briefly returned to normal in July-August. However, the colder water re-emerged this past fall and again La Niña influenced our climate patterns in the winter and spring of 2012. In March and April, however, ocean temperatures have rapidly returned to normal and this La Niña episode is considered over.

Climate outlook

Normal patterns should set in through spring and summer While La Niña lasted through the spring last year and contributed to a very dry May and June in the Southeast and Texas in 2011, this year the ocean temperatures have already returned to normal. With La Niña no longer an influence on the weather patterns of the Southeast, we can anticipate normal spring and early summer climate patterns. Normal does not necessarily imply that seasonal temperature and/or precipitation will be near the long-term average, rather that there is little inclination towards wetter, drier, warmer, or colder due to events in the Pacific Ocean. Near normal rainfall and temperature is the most likely, but we can also anticipate the normal variability of weather and climate to be a factor in the next several months.

Florida: Over Florida, the onset of the summer rainy season is usually anywhere from mid-May to early June. With La Niña dissipating earlier this year, there is no indication that the summer convective rains would be late in beginning. The summer rains effectively end the wildfire season in the state, but potential for large fires will continue until rains begin in earnest. The wildfire season rarely lasts past mid-June in any phase of the Pacific Ocean. Unlike Georgia and Alabama, summer is the season for recharge in Lake Okeechobee. There is a trend in spring rainfall across Florida that is worth noting. The official climate "normals", or averages are computed by NOAA's National Climatic Data Center for the most recent 30-year period. These normals are updated every ten years with the latest update released earlier this year. In comparing the updated normals (1981-2010) for rainfall in Florida with the previous values (1971-2000), we noticed a change in May rainfall. The May rainfall normals for the latest 30-year period are consistently drier than the previous values across the State. The trend towards a drier May could mean that the rainy season in Florida starts a little later in recent years. The differences in April and June rainfall were much more of a mixed bag and did not indicate any coherent pattern across the State.

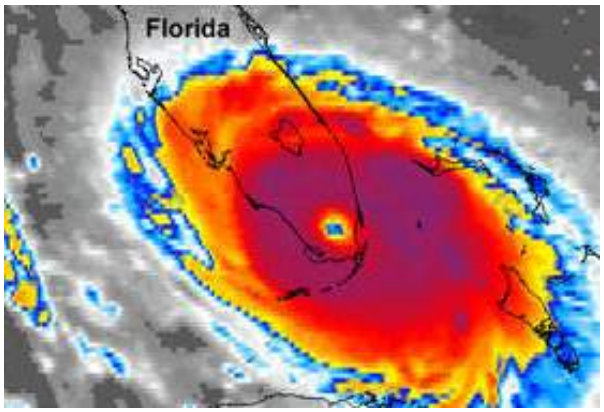
Wildfire Outlook: Extended dry stretches and wildfires are not unusual during Florida's spring season. The peninsula of Florida is generally fairly dry during the fall and winter months, where rainfall averages only two to three inches per month. With North Florida and as spring approaches and temperatures heat up to afternoon highs in the 80's or even 90's, soils and vegetation dry quickly, especially in the state's second driest month of April. Fortunately, the latter half of May and June bring the beginning of the rainy season, characterized by frequent afternoon thundershowers. In fact, the peninsula of Florida receives over 40 percent of its yearly rainfall in the months of June-September. These showers moisten soils and green up the vegetation, greatly diminishing drought concerns and wildfire threat.

Hurricane Season: Colorado State has issued their annual hurricane season forecast in April and it generally calls for below average hurricane activity in the Atlantic, Caribbean Sea, and Gulf of Mexico. This forecast is based on the possibility of El Niño developing later this summer and impacting the hurricane season. El Niño is well known to hinder tropical storm and hurricane development in the Atlantic basin. The Colorado State forecast is for 10 named storms, 4 hurricanes, and 2 major hurricanes (category 3 or higher), all of which are less than the historical average. It should be noted that the prediction of El Niño is very difficult at this time of year, and if we remain in neutral or La Niña returns, then these numbers are likely to be higher. Also keep in mind that these season hurricane predictions cannot address if or where the storms may make landfall.

PREPARE AND STAY AWARE!

When is Hurricane Season?

June 1 - November 30



What Is A Hurricane?
A hurricane is a tropical cyclone, which generally forms in the tropics and is accompanied by thunderstorms and a counterclockwise circulation of winds. Tropical cyclones are classified as follows:

TROPICAL DEPRESSION
An organized system of clouds and thunderstorms with a defined surface circulation and maximum sustained winds* of 38 mph or less

TROPICAL STORM
An organized system of strong thunderstorms with a defined surface circulation and maximum sustained winds of 39-73 mph

HURRICANE
An intense tropical weather system of strong thunderstorms with a well-defined surface circulation and maximum sustained winds of 74 mph or higher

STORM SURGE - is water that is pushed toward the shore by the force of the winds swirling around the storm. This advancing surge combines with the normal tides to create the hurricane storm tide, which can increase the mean water level 15 feet or more.

INLAND FLOODING - In the last 30 years, inland flooding has been responsible for more than half the deaths associated with tropical cyclones in the United States.

HIGH WINDS - Hurricane-force winds can destroy poorly constructed buildings and mobile homes. Debris such as signs, roofing material, and small items left outside become flying missiles in hurricanes.

TORNADOES - Hurricanes can produce tornadoes that add to the storm's destructive power. Tornadoes are most likely to occur in the right-front quadrant of the hurricane.

Hurricanes and tropical storms can be very devastating to agriculture including the Florida citrus industry. In 2004 and 2005, growers and farmers have seen their groves, barns, equipment and homes destroyed. If a hurricane hit our state this year, damage to trees would be of varying degrees. Some trees would be uprooted. Others would have major limbs split off or would have major defoliation. Fruit would litter the ground and grapefruit trees would suffer the most loss because of the larger size and heavier weight fruit.

PLAN AND PREPARE

Hurricanes can strike at any time during June through October. It is best to devise a hurricane plan and use it to make preparations far before the hurricane season. The hurricane plan should provide protection from a storm and recovery after the storm.
For more details, go to “Hurricane Preparedness For Citrus Groves”
by Dr. Bob Rouse
at http://edis.ifas.ufl.edu/CH178

PRE-STORM PREPARATION

By Dr. Bob Rouse

Personnel assignments - A major part of the hurricane plan is ensuring that all managers know their responsibilities prior to, during, and after a hurricane. Make a list of all tasks that will need to be performed so there are no last-minute, unanticipated gaps to plug. Identify and maintain a updated list of the members of a damage inspection team which will determine where storm damage occurred and how extensive it is. Make sure each team member knows his or her responsibilities. Specific workers should be assigned to fix ditches, prop up trees, fix roadways and perform other tasks after the storm. Make sure you know how to contact workers at their place of safety, and that they have a way to call in after the storm.

Safety training - Workers should be trained in the safe operation of unfamiliar equipment they may have to use if a hurricane hits. For instance, drivers may wind up using chain saws to remove a downed tree that is blocking a road.

Liquid tanks - Tanks containing fuel, fertilizer and other materials should be kept full so they don't move in the wind and rain, and to ensure that sufficient fuel is available for machinery used in recovery efforts after the storm.

Ditches - Ditches should be kept clean and pumped down to help maximize water removal efforts after the storm.

Emergency equipment - Make sure that all emergency equipment - including generators, chain saws, torches, and air compressors - is on hand and in good repair. Emergency generators should be available for use in headquarters and equipment maintenance shops. Large diesel powered generators with 25 to 60 kilowatt capacity can be rented or leased by the month during the hurricane season.

Communications equipment - Ensure that radios are in good working order. Have hand-held portable radios with extra charged battery packs available for workers who will need them in the field after the storm. Direct truck-to-truck radio communication is most reliable when phone lines are down, but cellular phones with radio capabilities, and standard cellular phones can help workers save valuable time during the recovery process, as opposed to communication systems that require messages to be relayed through a base unit.

Hazardous materials - Hazardous materials should be secured prior to a storm, and gasoline pumps should be shut down.

Emergency contacts - Have a list of phone numbers you might need in an emergency, including numbers for the phone and electric companies.

MANAGEMENT OF GREASY SPOT

Management of greasy spot must be considered in groves intended for processing and fresh market fruit. Greasy spot is usually more severe on leaves of grapefruit, pineapples, Hamlins, and tangelos than on Valencias, Temples, Murcotts, and most tangerines and their hybrids.

Greasy spot spores germinate on the underside of the leaves and the fungus penetrates through the stomates (natural openings on lower leaf surface). Warm humid nights and high rainfall, typical of Florida summers, favor infection and disease development.

On processing Valencias, a single spray of oil (5-10 gal/acre) or copper + oil (5 gal/acre) should provide acceptable control when applied from mid-May to June. With average quality copper products, 2 lb of metallic copper per acre usually provide adequate control. The strobilurin fungicides (Abound, Gem, or Headline), as well as Enable 2F, are also suitable with or without petroleum oil. On early and mid-season oranges and grapefruit for processing, two sprays may be needed especially in the southern part of the state where summer flushes constitute a large portion of the foliage. Two applications also may be needed where severe defoliation from greasy spot occurred in the previous year. In those cases, the first spray should be applied from mid-May to June and the second soon after the major summer flush has expanded. Copper fungicides provide a high degree of control more consistently than oil sprays. Control of greasy spot on late summer flushes is less important than on the spring and early summer growth flushes since the disease develops slowly and defoliation will not occur until after the next year's spring flush. Thorough coverage of the underside of leaves is necessary for maximum control of greasy spot, and higher spray volumes and slower tractor speeds may be needed than for control of other pests and diseases.

The program is essentially the same for fresh fruit. That is, a fungicide application in May-June and a second in July should provide control of rind blotch.

A third application in August may be needed if rind blotch has been severe in the grove. Petroleum oil alone is less effective than other fungicides for control of greasy spot rind blotch (GSRB). Heavier oils (455 or 470) are more effective for rind blotch control than are lighter oils (435). Copper fungicides are effective for control of GSRB, but may result in fruit spotting especially if applied at high

rates in hot, dry weather or if applied with petroleum oil. If copper fungicides are applied in summer, they should be applied when temperatures are moderate, at rates no more than 2 lb of metallic copper per acre, without petroleum oil or other additives, and using spray volumes of at least 125 gal/acre. Enable 2F can be applied for greasy spot control at any time but is especially indicated in mid to late summer for rind blotch control.

The strobilurin fungicides (Abound, Gem, or Headline) or Enable 2F can be applied at any time to all citrus and provide effective control of the disease on leaves or fruit. Use of a strobilurin (Abound, Gem, or Headline) is especially indicated in late May and early June since it will control both melanose and greasy spot and avoids potential fruit damage from the copper fungicides at that time of year. A strobilurin fungicide should not be applied more than once a year for greasy spot control. Addition of petroleum oil increases the efficacy of these products.

•Processed fruit

May-June

- Petroleum oil (455, 470) 5-10 gal
- Cu fungicides 2-4 lb metal
- Abound, Gem, Headline + 5 gal oil
- Enable

July

- Petroleum oil (455, 470) 5-10 gal
- Cu fungicides 2-4 lb metal
- Abound, Gem, Headline + 5 gal oil
- Enable

•Fresh fruit

May-June

- Petroleum oil (455, 470) 10 gal
- Cu fungicides < 2 lb metal, No oil
- Abound, Gem, Headline + 5 gal oil

July

- Petroleum oil (455, 470) 10 gal
- Cu fungicides < 2 lb metal
- Abound, Gem, Headline + 5 gal oil
- Enable 8 oz. + 5 gal oil

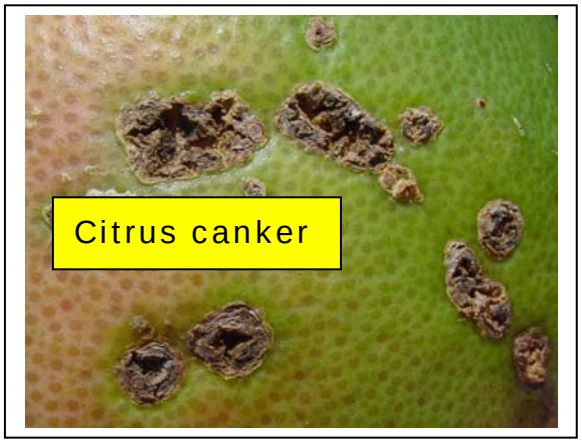
Quadris Top	10-15.4 fl oz. Do not apply more than 61.5 fl oz/acre/season for all uses. Do not apply more than 0.5 lb ai/acre/season difenconazole. Do not apply more than 1.5 lb ai/acre/season azoxystrobin.

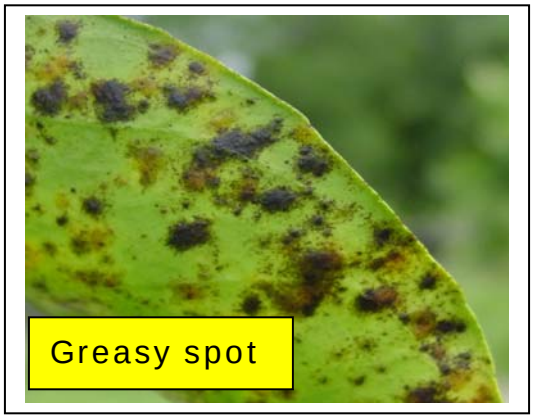
For more information on greasy spot, go to

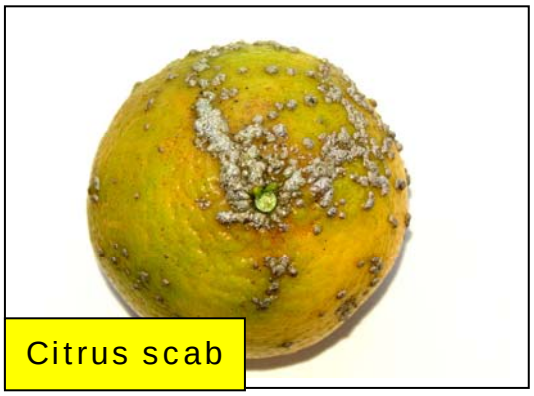
http://edis.ifas.ufl.edu/cg018

Fungicide effectiveness

	Canker	Greasy Spot	Alternaria	Scab	Melanose
Copper	Good	Excellent	Good	Moderate	Excellent
Oil	None	Good	None	None	None
Ferbam	None	Weak	Moderate	Good	Weak
Headline	None	Good	Very good	Excellent	Good
Abound	None	Good	Very good	Excellent	Good
Gem	None	Good	Good	Excellent	Good
Enable	None	Excellent	Poor	Good	Weak







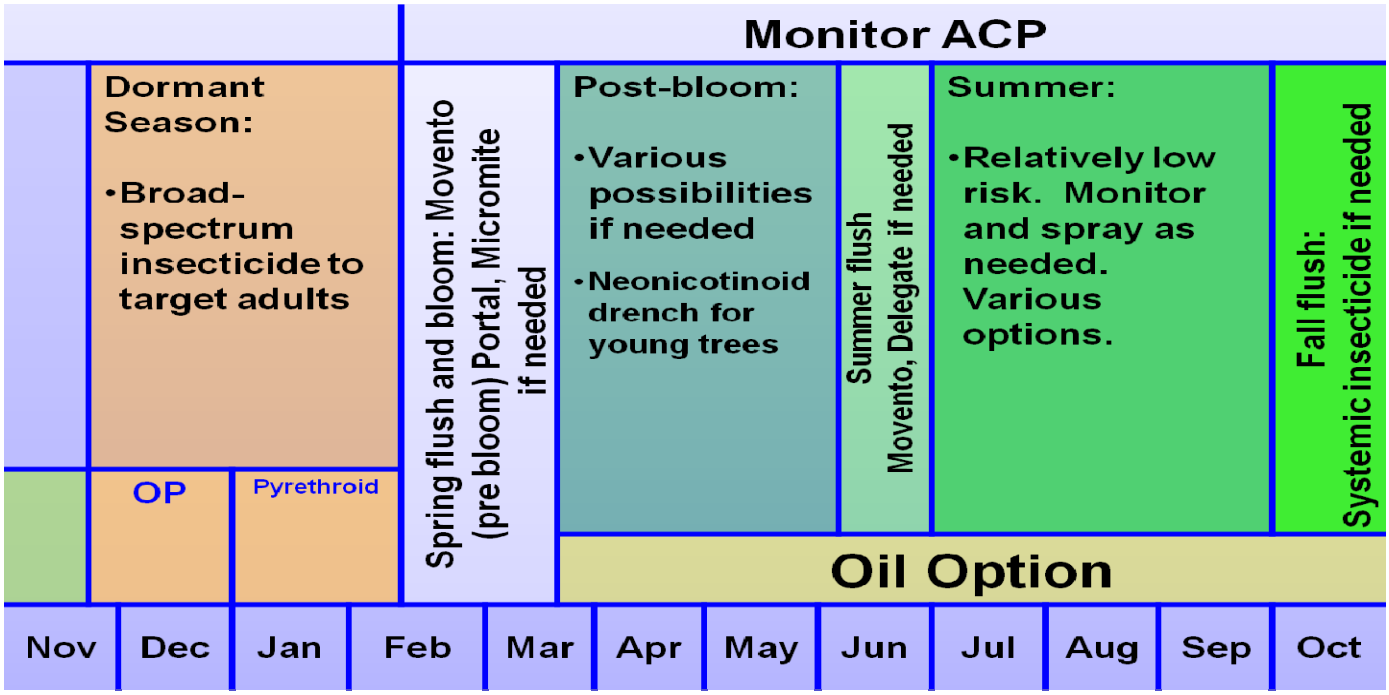
CITRUS RUST MITES

Rust mites are found on all citrus varieties throughout Florida. Rust mite population densities increase in May-July and then decline in late August, but can increase again in late October or early November. While the primary effect of fruit damage caused by rust mites appears to be a reduction in grade, other conditions have been associated with severe fruit injury such as reduced size. Severe leaf injury to some specialty varieties (Sunburst, Ambersweet, Fallglo) can lead to leaf drop.

Citrus groves producing fruit designated for the fresh market may receive 3-4 miticides/year typically during April, June, August, and October. In contrast, groves producing fruit designated for processing may not need to be treated. Miticides applied for the control of rust mites on fresh fruit varieties are often combined with compatible fungicides in the spring and summer. An alternative approach is using petroleum oil as a fungicide for greasy spot control and to suppress mites, psyllids, and leafminers. Scouting for rust mite populations is very important for efficient control.
For more information, go to:
http://edis.ifas.ufl.edu/CG002

Best Use of Insecticides to Control Asian Citrus Psyllid

Phil Stansly (SWFREC) **A Psyllid Management "Program" by Dr. Phil Stansly, UF-IFAS**



Refreshed and Renewed: The Citrus Copper Application Scheduler

Megan Dewdney, Clyde Fraisse, Tiago Zortea and Jamie Yates

The citrus copper application scheduler, formerly known as the 'DISC copper model', was released originally in 2002 and designed to assist growers with decisions on timing the next copper application. The system was intended for groves where melanose and other foliar fungal diseases were of concern. Historically there was concern about inadequate disease control with copper, fruit phytotoxicity or stippling, and toxic build up of copper residues in the soil. The tool assisted growers in determining the residue remaining on fruit surfaces after application and the timing of an additional application. The aim was to avoid unnecessary copper sprays and to reduce production costs when possible but conversely, to warn when residue levels were lower than expected so that an application could be made before the next rain event. In other words, avoid infection because copper residues were too low but also minimize the number of applications.

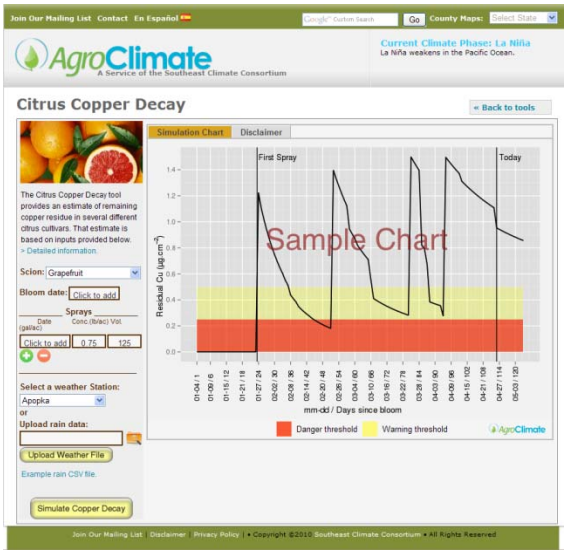
Copper residue levels are affected by two main factors: fruit growth and rain. When fruit are small and growing rapidly, the fruit surface area expands but the copper deposit does not, leaving the areas in between copper residues exposed to disease infection. Rainfall is also important because it reduces copper residues below effective levels, leaving fruit vulnerable to disease.

Since the development of the original 'DISC copper model', many things have changed in citrus production. For instance, canker was re-introduced to Florida and has since spread through many production areas of the state. Depending on the scion cultivar, copper sprays may be needed until October whereas most foliar fungal diseases only need applications into June. Black spot, a fungal disease, was also recently introduced into Florida. While it has not spread throughout the state as canker has, black spot management requires copper sprays from spring through the summer until September. The original model was based on growth and residue data that ended in June and may not be accurate for the later season applications. Disease management is not the only thing that has changed in the time since the model was released; computer technology has also evolved impressively. This initial revision of the copper model, renamed the 'Citrus Copper Application Scheduler', has taken advantage of current web-based technologies to make the model interface as user friendly as possible.

When you open the model on the AgroClimate website (www.agroclimate.com), first and foremost, you will notice the interface has changed dramatically from the original model. Instructions on how to find and use the tool are given below (Fig. 1). It has been given an entirely new, more appealing appearance. We have tried to make data input simple. Four pieces of information are needed to use the model: 1. Weather station nearest to block; 2. Scion; 3. Approximate bloom date; and 4. Date of application, copper concentration (lb metallic) and spray volume (gal/acre). Rainfall data can be inputted in one of two formats, select a FAWN weather station close to your block or upload data from a CSV (comma-separated value) file on your computer. Instructions on how to format your data for the model are available on the web site when you click on the word **Help**. Model predictions will only be as good as the data that is up loaded into the model. FAWN weather equipment is checked regularly and the accuracy verified but there are no such guarantees for other sources of data. Scion is selected from the drop down menu and you can choose from grapefruit, navel, Valencia or generic orange. We plan to link this tool to the flower monitoring model to help growers approximate bloom dates in case they do not have them noted for all blocks. We have also made short video demonstrations of how to use the models that can be viewed at (http://www.crec.ifas.ufl.edu/extension/plant_pathology/cdm.shtml).

Since the 'Citrus Copper Application Scheduler' is now a web-based application and can be accessed via the web anytime, there is no longer a file that must be saved and downloaded to your computer. In the current format, it is not possible to save the season's data on-line as could be done in the former version. If we get enough feedback from users that this is a needed service, it can be implemented, but a fee may be required. It is not yet compatible with smart phones or other mobile devices but we plan to create a version for mobile platforms. Another feature we are still working on

is the forecasting of residues and their persistence. We are also gathering additional data to make late season copper residue estimates as accurate as possible but this will take at least another year after this season. We are very interested in feedback from users so please contact Megan Dewdney (mmdewdney@ufl.edu), Clyde Fraisse (cfraisse@ufl.edu) or your multicounty citrus agents. We are planning to do hands on demonstrations in coordination with the multicounty agents and present the model at Citrus Expo, so if you are interested, please look for announcements.



The revised copper model released in 2011.

UF FLORIDA

Citrus Copper Application Scheduler

www.agroclimate.org

AgroClimate

How to Find the Tool

1. Select AgroClimate tools on the left menu bar
2. Click Crop Diseases
3. Click Citrus Copper Application Scheduler

How to Input Information

1. Select the closest weather station or upload personal rainfall data (click help for assistance)
2. Choose the scion (grapefruit, Valencia, navel, mandarin, orange)
3. Insert estimated bloom date (navigate between months and click on day)
4. Insert date(s) of spray application (navigate between months and click on day)
5. Insert the concentration of metallic copper (lbs/ac) and volume (gal/ac) applied
6. Click Simulate Copper Decay to generate chart

How to Read the Simulation Chart

The black dotted line represents the copper residue levels remaining since you sprayed.
The black vertical line represents the current date.
The black dashed line represents forecast copper residue during the next week.
The purple vertical bars represent daily rainfall accumulation.
The gray area represents copper residue is still viable.
The yellow is a warning your copper residues are getting low.
The orange is a danger threshold and you should spray as soon as possible.
Click the Simulation Details tab to view and download data as a spreadsheet.

For more information, contact Megan Dewdney, mmdewdney@ufl.edu or Clyde Fraisse, cfraisse@ufl.edu

Florida produces some of the earliest commercial-best quality peaches in North America. The University of Florida has developed high quality, low chilling, early maturing peach cultivars that can be grown from the panhandle to as far south as Immokalee. Low chilling cultivars can grow and produce fruit under Florida conditions. Furthermore, ripening of these cultivars during April and May ensures an early spring market window for tree-ripe fresh fruit in Florida before production from other southeastern states and California comes to market. Florida peach trees, on average, come into commercial production in 2-3 years and have about a 7- to 10-year life span because diseases and pests eventually weaken trees and decrease fruit production. In addition, newer cultivars with improved qualities are released frequently to replace older cultivars with problems that were not evident when they were first released.

Chilling Requirement

Peaches are temperate-zone plants that require a minimum amount of accumulated cool temperature exposure (below 45°F) to resume normal growth the following spring. This varies by cultivar and is referred to as the cultivar's chilling requirement. Chilling requirement is usually expressed in chill units (cu). Each cultivar has its own characteristic chilling requirement which partially determines its adaptability to a certain region of the state. Florida can be divided into north, north central, and central Florida down to Immokalee and Ft. Pierce, each region having a characteristic range of chilling hours. Peaches of currently available varieties cannot be grown successfully south of Immokalee because of insufficient chilling. Both **chilling requirement** and **chilling hours** are sometimes used interchangeably, but **chilling requirement** refers to the exposure to cool temperatures (between 32° to 55°F) necessary for the resumption of normal spring growth. Chilling usually occurs from November through January in central Florida. The model most used in the SE United States is the total number of hours below 45°F and above 32°F. Temperatures from 40 to 50°F are most effective, with higher or lower temperatures being less effective. When a peach cultivar is grown outside of its recommended area and has insufficient chilling, it may bloom late and not fruit normally. By contrast, if peach cultivars have too low chilling requirement for a given location, they tend to bloom early and can sustain fruit and tree damage during late winter freezes unless overhead irrigation is used to protect flowers and young fruit.

Melting versus Non-Melting Flesh, Clingstone and Freestone Peaches

Peaches can be categorized as having either **melting** or **non-melting flesh**. Non-melting peaches do not bruise as easily as melting flesh peaches during harvest and remain firm after canning. All non-melting types released by the University of Florida are **clingstone**, meaning that the flesh adheres to the pit or stone when fruit is ripe. Melting flesh peaches become soft when canned, have ragged edges when sliced during processing and can be either clingstone or **freestone** (flesh does not adhere to the pit when the fruit is ripe). Many melting flesh peach cultivars have been developed for the fresh market. However, when these melting flesh cultivars are harvested ripe, the fruit bruise easily and have a short shelf life. One solution to this problem is to harvest melting flesh peaches when they were not fully ripe, so that they were firm enough to resist bruising and last longer in grocery stores. However, although peaches become sweeter as they ripen on the tree, they do not become sweeter after they are harvested, especially when they are harvested before they are ripe. Note that most peaches can become softer when you leave them in your fruit bowl because the walls of individual plant cells break down, but the fruit will not become sweeter. Consequently, peach breeders have developed non-melting-flesh peaches for the fresh market so that growers can harvest and ship tree-ripe fruit with firm flesh that resists bruising and has a longer shelf life. Many of the recently released cultivars from the University of Florida peach breeding program have non-melting flesh. All **melting flesh** peaches released from the University of Florida breeding program begin with the prefix Florida. All **non-melting flesh** peaches from the University of Florida share the prefix UF.

Planting Situation

Site selection and cultivar choice rank as the two most important factors in successful peach growing. In selecting a site, avoid low areas characterized by late spring frosts. Even in central and SW Florida, freezes can occur throughout February in cold locations; thus, upland sites with good air drainage are essential for reliable production. Peaches can be grown on a wide variety of soils, provided they are well drained in the upper 4 to 6 feet. Avoid "hardpan" soils unless an excellent system of subsoil drainage tiles is provided. Normal tree spacing is 15 x 20 feet. All common peach cultivars are self-fruitful and should be planted in solid blocks for easier spraying and harvesting. Irrigation is usually needed during the fruit development period to obtain acceptable fruit size and yields. For low-volume irrigation systems, microsprinklers are preferred to drippers. A properly designed overhead sprinkler irrigation system has the advantage of protecting flowers and young fruit from late winter and spring freezes.

Cultural Program

Nematodes are common in Florida soils. Therefore, only nematode resistant rootstocks such as **Flordaguard** should be used in Florida. Peaches are susceptible to a number of pests including diseases and insects. A regular pest control program must be followed to ensure good fruit quality. Although, some diseases and insects can be severe, they can usually be controlled with a proper pest management program. More information is available on peach culture from the Cooperative

Extension Service, the Horticulture Sciences Department at the University of Florida, and the Immokalee IFAS Center.

Labor

Peach production requires high levels of seasonal hand labor. Commercial growers hire labor for pruning, fruit thinning, and harvesting. Family operations often supply their own labor. Timing of labor operations is very critical. A delay of two days in harvesting can possibly result in loss of all profits.

Marketing Situation

The incentives for growing peaches in Florida are: 1) production and marketing of fresh Florida peaches before California, central Georgia or South Carolina; and 2) production of quality fruit when there are almost no other quality fresh fruits of any kind in the markets. Peaches can generally be produced continuously from late April until late May in Florida, depending on weather. Summer rains make disease problems on peaches so great that late maturing cultivars have little or no potential in Florida. It is necessary to harvest each cultivar 3 to 4 times at 2-day intervals in order to obtain fruit that have reached the right stage for marketing. For long distance shipment, fruit must be carefully graded, sized, cooled and packed. This requires a sizeable investment in a packinghouse which is not likely to prove economically feasible with less than 50 acres. However, marketing alternatives for small growers include direct sales to grocery stores or produce markets, and u-pick or roadside stand operations. It is important that several cultivars are grown which ripen in succession. This helps with marketing and efficient use of harvest labor and packing facilities.

Cultivars for SW Florida	Estimated chill units	Bacterial spot resistance	Flower bud set
Flordaglo	150	8	9
Tropicbeauty	150	5	8
UFSun	100	7	10
1 = least desirable, 10 most desirable.			

There are many more Florida peach cultivars, see next page

Cultivar	Fruit Dev. (days)	Size (g)	Taste	Attractiveness
Flordaglo	78	94	8	8
Tropicbeauty	89	100	9	10
UFSun	90	130	10	9
1 = least desirable, 10 most desirable.				

For more information, go to THE UF STONE FRUIT WEBSITE

http://hos.ufl.edu/stonefruit/

Some EDIS publications on peaches

Peach, Plum and Nectarine Production

... Peach, Plum and Nectarine Production. Subtopics. **Peach**, Plum, and Nectarine Pest Management; **Peach**, Plum and Nectarine Products and Recipes. Publications. **...**
edis.ifas.ufl.edu/topic_peaches_and_nectarines - 7k

Peach, Plum, and Nectarine Pest Insect Management

... Peach, Plum, and Nectarine Pest Insect Management. **...** Green **Peach** Aphid, Myzus persicae (Sulzer) (Insecta: Hemiptera: Aphididae); Insect Management in Peaches; **...**
edis.ifas.ufl.edu/topic_stone_fruit_pest_insects - 7k

Peach, Plum, and Nectarine Pest Management

... Peach, Plum, and Nectarine Pest Management. Subtopics. **Peach**, Plum, and Nectarine Disease Management; **Peach**, Plum, and Nectarine Pest Insect Management; **...**
edis.ifas.ufl.edu/topic_peach_and_nectarine_ipm - 6k

Peach & Nectarine (HS)

... Advanced Search; **Peach** & Nectarine (HS). Publications. Alternative Opportunities for Small Farms: **Peach** and Nectarine
edis.ifas.ufl.edu/topic_hs_peach-nectarine - 6k

Peach, Plum, and Nectarine Disease Management

... Peach, Plum, and Nectarine Disease Management. Subtopics. **...** IFAS Research. Related
edis.ifas.ufl.edu/topic_stone_fruit_diseases - 6k

Peach, Plum, and Nectarine Weed Management

... Advanced Search; **Peach**, Plum, and Nectarine Weed Management.
edis.ifas.ufl.edu/topic_stone_fruit_weeds - 6k

HS1108/HS364: Strategies for Subtropical **Peach** Production in **...**

... Strategies for Subtropical **Peach** Production in Florida
edis.ifas.ufl.edu/hs364 - 19k - 1998-10-30

HS1110/HS366: Rootstocks for Florida **Peaches**, Nectarines, and **...**

... Although a large number of rootstocks are available for stone fruit in other locations and climates, only 'Flordaguard' **peach** rootstock is currently **...**
edis.ifas.ufl.edu/hs366 - 19k - 1998-10-30

HS1125/HS342: Florida Subtropical **Peaches**: General Concepts and **...**

... The University of Florida has developed high quality, low chilling, early maturing **peach** and nectarine cultivars that can be grown from the panhandle to as far **...**
edis.ifas.ufl.edu/hs342 - 50k - 2007-07-01

HS1111/HS365: Training and Pruning Florida **Peaches**, Nectarines **...**

... Fruit from Florida's early maturing **peach**, nectarine Prunus persica (L.) Batsch), and Japanese plum cultivars (Prunus salicina Lindl.) mature in April and May.
edis.ifas.ufl.edu/hs365 - 23k - 1998-10-30

ENY-804/IG075: Insect Management in **Peaches**

... Insect Management in Peaches for Commercial **Peach** Production. **... Peach** Tree Borer and Lesser **Peach** Tree Borer **...**
edis.ifas.ufl.edu/ig075 - 31k - 2008-01-17

Flatwoods Citrus

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E-mail:_____

Racial-Ethnic Background

__American Indian or native Alaskan
__Asian American
__Hispanic
__White, non-Hispanic
__Black, non-Hispanic

Gender

__Female
__Male