UF | IFAS Extension
UNIVERSITY of FLORIDA

Palm Beach County

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SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE

March 17, 2016

Following a few cooler days at the end of February, March has been relatively warm and dry.

Warm and sunny days have greatly increased plant growth and reduced disease pressure bringing relief to growers and allowing saturated soils to dry down. As conditions continue to dry down, growers should evaluate their irrigation schedules in light of warmer temps and increasing evapotranspiration rates.

FAWN Weather Summary

Date	Air Temp °F		Rainfall	Ave Relative Humidity	ET (Inches/Day)
	Min	Max	(Inches)	(Percent)	(Average)
Balm					
2/14 – 3/16/16	38.53	86.76	1.67	73	0.11
Belle Glade					
2/14 – 3/16/16	41.65	88.61	1.51	80	0.11
Clewiston					
2/14 – 3/16/16	40.36	88.36	1.52	75	0.11
Ft Lauderdale					
2/14 – 3/16/16	48.88	86.16	2.19	72	0.11
Homestead					
2/14 – 3/16/16	44.96	85.32	0.94	74	0.11
Immokalee					
2/14 – 3/16/16	40.87	89.83	1.95	75	0.11
Okeechobee					
2/14 – 3/16/16	45.46	89.33	1.41	74	0.10
Wellington					
2/14 – 3/16/16	43.59	91.13	1.34	75	0.11

The National Weather Service indicates a **cold front will approach** the region **Saturday** and **move through by Sunday. Scattered showers and thunderstorms are expected** as early as Friday night and into Saturday through Sunday. It's too early to tell if strong thunderstorms are a threat. **Highs in the 70s and lows in the 50s to low 60s** with low relative humidity are expected for **early next week**. Visit the National Weather Service http://www.srh.noaa.gov/mfl/newpage/index.html for updates and details

Crops coming to market include cabbage, collards, cucumber, eggplant, green beans, herbs, lettuce, kale, pepper, squash, sweet corn, Swiss chard, tomato, and various specialty items. Volumes are beginning to pick up and quality is beginning to improve as plants grow out of the effects of the past few months of adverse conditions. Continued low yields have resulted in favorable prices for many items.

Insects

Worms

Growers and scouts **in the EAA, report the worm pressure is beginning to ratchet up** in leafy greens, squash and sweet corn. An avg. of 3 - 5 fall armyworm adults per night in traps is being detected.

After being almost non-existent for several weeks, **worm pressure remains low around SW Florida** with a few loopers and southern armyworms in pepper and tomato and fewer pickleworms in squash.

Around Homestead, fall armyworm, beet armyworm and diamondback moth are common.

Respondents report **diamondback moth (*Plutella xylostella*) larvae have been causing significant damage to cabbage crops and other crucifers in Hillsborough and Manatee Counties. Growers are reporting similar problems with diamondback moths across South Florida.**

Diamondback moth larvae are small green caterpillars with a pair of prolegs on their posterior end that form a "V" shape. This helps distinguish them from other caterpillars commonly found attacking crucifers, including imported cabbage worm and cabbage looper. It takes about four weeks from egg to emergence of adult from the pupa for this pest, which averages from 12 to 15 generations a year in Florida. Diamondback moths feed ONLY on plants in the crucifer family: cabbage, broccoli, kale, mustards, radish, turnips, watercress, Brussel sprouts and the like. Many weeds are also crucifers and serve as host for diamondback moth: yellow rocket, shepherd's purse, pepperweed, and wild radish.

Diamondback larva with window pane feeding damage. Lyle Buss, UF.

Diamondback moth larvae feed on the lower surface of the leaf, often leaving the epidermis of the upper leaf surface intact and producing "windowpane" type damage. They will actively wiggle when disturbed and may also drop from foliage on a strand of silk when bothered.

Dr. Hugh Smith, Vegetable Entomologist, at UF/IFAS GCREC reports **diamondback moths develop resistance to insecticides easily, particularly pyrethroids. Rotation of modes of action and avoidance of pyrethroids are important** for managing diamondback moth. There are at least three types of parasitic wasp in Florida that attack either the larval or pupal stage of diamondback moth. He notes that early season reliance on Bacillus thuringiensis (Bt) products does not interfere with the activity of these **natural enemies and can offset the severity of infestations.**

Diamondback moth has developed resistance to Bt products in some regions; however **Bt remains useful for controlling young larvae.** It is advised that application of **products with the aizawi strain of Bt (i.e. Agree WG, Xentari DF) be alternated with products formulated with the kurstaki strain of Bt (i.e. Biobit HP, Crymax WDG, Dipel DF, Javelin WG).**

Insect growth regulators (IGRs) are slow acting but useful to managing diamondback moth larvae: **Rimon (novaluron, IRAC MoA Group15) and Intrepid (methoxyfenozide, IRAC MoA Group 18**). **Avaunt (indoxacarb, IRAC MoA 22) is another important rotation tool** for caterpillar management.

Coragen is a systemic diamide insecticide (IRAC MoA Group 28) that can applied at-plant or through the drip irrigation as well as foliarly to provide protection against diamondback moth and other caterpillars. The active ingredient in Coragen is chlorantraniliprole, which is one of the ingredients in Durivo. Durivo also contains the neonicotinoid thiomethoxam (IRAC MoA Group 4A) which provides protection against sucking pests such as whiteflies and aphids. Verimark is another Group 28 insecticide that is applied at-planting or through the drip. It provides protection against caterpillars as well as whiteflies and leafminers.

Group 28 foliar insecticides that can be used to manage diamondback moth include Belt and Exirel. The active ingredient in Belt is flubendiamide, whose use EPA has threatened to cancel. However, growers can still buy and sell it. If cancelation does happen, sale and movement will stop but growers should still be able to use existing stocks.

Flubendiamide is also in Vetica, which contains buprofezin to control whitefly nymphs. Exirel, like Verimark, contains cyzaypyr (cyantraniliprole) and is also effective against whiteflies and leafminers. The window treatment approach should be used for applying group 28 insecticides to cabbage and other crucifers. If Group 28 insecticides are applied at-planting and during the first five week treatment window, they should not be applied during the second five week treatment window.

For additional information on diamondback moth, including images and links to help distinguish it from imported cabbage worm and cabbage looper, visit
http://entnemdept.ufl.edu/creatures/veg/leaf/diamondback_moth.htm

Pepper Weevil

Pepper weevil **pressure remains persistent in Palm Beach County** as older fields are terminated.

Pressure remains high around Immokalee and is increasing in many places seemingly from recent winds helping to disperse them.

Respondents indicate that **pepper weevils are beginning to show up in the Manatee/Ruskin area.**

Pepper weevil remains a major problem in Miami Dade County especially on eggplants which are sometimes grown year round in Homestead.

Avoid planting pepper near eggplant fields and scout fields regularly to detect infestations early. Actara, Vydate, diamides and pyrethroids can be used in a program to control weevils.

Leafminer

Around Southwest Florida, leafminers remain mostly low but growers and scouts report some flare-ups in tomato and watermelon in some places.

Reports from Homestead and the East Coast, indicate leafminer pressure remains mostly low.

Respondents in the Manatee/ Ruskin area report are mostly low but note that growers are treating for leafminer in some places.

Whiteflies

Around Immokalee, whiteflies are increasing in many fields and have reached high numbers in some locations. Growers are reporting problems in tomato, squash, eggplant and watermelon.

Reports indicate that whitefly are common in Miami-Dade County and growers are finding adults and other developmental stages on a variety of vegetable crops.

In the Manatee Ruskin area, growers and scouts are finding whiteflies in tomatoes and melons.

On the East Coast, respondents indicate that whiteflies are mostly low.

Whiteflies are present on cole crops in the EAA and elsewhere.

Broad Mites

Broad mites have never really gone away in Southwest Florida and continue to cause problems in pepper and eggplant.

On the East Coast, broad mites are common and persistent in many pepper and eggplant fields.

Broad mites are widespread around Miami Dade County.

Soaps and oils can provide effective control if infestations are detected and treated early.

Aphids

Aphids remain a problem in cabbage and lettuce in the EAA.

Around Southwest Florida, aphids have been showing up in many locations and colonies starting to build up in a variety of different crops.

Elsewhere aphids remain mostly low with a few winged aphids blowing in.

Thrips

***Thrips palmi* are increasing in a few locations around Southwest Florida,**

Reports from Palm Beach County indicate that thrips remain mostly low but are beginning to increase in some pepper fields.

A few western flower thrips are being reported on pepper in Manatee County.

In Miami Dade County, melon thrips abundance is high on eggplant, squash, cucumber, beans and okra. On tomato, the abundance is low but they can be found in all tomato fields.

Dak Seal, Entomologist at UF/IFAS TREC recommends:

1. Do not use insecticides unless you are sure about pest status of the thrips on your crop.
    a. Identify your thrips as some can be harmless or even beneficial.
2. Once the species is confirmed to be a harmful one, plan immediately your IPM program.
3. Scout fields to confirm the level of infestation - if the population is below threshold levels, use environmentally compatible products, such as Trilogy, Neemix, Requiem, and Grandevo. These products can be used alone or in combination (Trilogy + Requiem or Neemix + Grandevo).
4. If thrips populations are increasing, use Radiant in combination with Movento followed by Closer/Exirel/Torac. This program also will suppress flower thrips. Dak notes that while all of these insecticides will provide suppression of thrips populations but none of them is a silver bullet.

Corn Silk Fly

Around Belle Glade, low numbers of silk fly adults are present in most young corn.

In Miami Dade, County corn silk fly numbers remain low likely due to measures aimed at combating the Oriental fruit fly outbreak earlier this year removing alternate food sources and breeding sites.

Spider Mites

Reports indicate that spider mites remain mostly low but are becoming problematic in eggplant and melons in a number of locations around South Florida.

Diseases

Drier weather the past few weeks has helped give growers a leg up on the disease front.

Target Spot

Around Immokalee, target spot has slowed down in many fields but remains a significant issue in many tomato fields. Some late winter plantings have had the interior bush pretty well hollowed out although growers report that they have been able to keep fruit lesions in check.

On the East Coast, target spot incidence is high in some older tomatoes and is also reaching high levels in some cucumber fields.

Newer fungicides such as Endura, Scala, Inspire Super, Reason Tanos and Fontelis have provided growers with new tools to manage this disease. Consult UF/IFAS recommendations for currently labeled fungicides for target spot in Florida tomatoes. http://edis.ifas.ufl.edu/pdffiles/cv/cv13700.pdf

Bacterial Spot

Around Southwest Florida, bacterial spot continues to cause problems in tomatoes. Bacterial spot remains sporadic in peppers depending on cultivar. Some are dropping leaves others are still clean.

On the East Coast, bacterial spot is increasing in severity and incidence in a lot of pepper and tomato. Bacteria is widely present in most hot varieties. Scouts report some bacteria showing up in race 1-5 resistant bell peppers. Growers report that race 1-10 resistant pepper varieties remain clean while bacterial spot is starting to become widespread in many fields where other varieties have been planted.

Bacterial spot is increasing in severity and occurrence in pepper and tomato in the Homestead area.

Low levels of bacterial spot have been reported on tomato in the Manatee Ruskin area but respondents report it appears to be drying up as weather conditions improve.

Bacterial Speck

Growers and scouts report that bacterial speck which got started in some tomatoes a few weeks ago under cool wet conditions seems to have dried up.

Early Blight

Early blight is increasing on tomatoes around South Florida.

Phomopsis

Phomopsis continues to plague some East Coast eggplants. Most severely affected areas are on land repeatedly planted in eggplant. As chemical controls are limited, get back to basics and rotate fields.

Black Rot

Growers and scouts are reporting major issues with black rot in cabbage and other cole crops this season in all area of South Florida.

Alternaria

In the EAA, there are significant issues with Alternaria on older beans which saw a lot of rain.

Alternaria is also being seen on cilantro around South Florida, mandating fungicidal sprays.

Reports from Homestead indicate that Alternaria leaf spot is increasing on some cucurbits.

Alternaria is also causing issues in tomato where it is primarily coming in on damaged tissue.

Late Blight

Very low levels of late blight involving just a few isolated finds have been reported on tomato and potato in Manatee and potato in the Immokalee area. No new infections have been reported beyond the initial finds.

Pamela D. Roberts, Plant Pathologist at the UF/IFAS Southwest Florida Research and Education Center reports: recent late blight samples from tomato (Manatee) and potato (Collier) came back as race US-23.

US-23 has been the predominant genotype in Florida and the US for several years. It is characterized as mefenoxam sensitive to intermediate.

See USABlight for more info and photos - http://usablight.org/lateblight

Downy mildew

Respondents in Palm Beach County report that downy mildew continues to affect lettuce, squash and cucumber, reaching high levels in some plantings.

Around Southwest Florida, downy mildew remains a problem on cucumbers and squash and growers and scouts report they continue to find new infections.

Downy mildew is also active on cucurbits in the Homestead area.

Symptoms of cucurbit downy mildew are characterized by foliar lesions, which first appear as small chlorotic patches on the upper side of the leaves. These lesions may appear water-soaked, especially during periods of prolonged leaf wetness. Later symptoms may coalesce into large necrotic areas, which may result in defoliation and reduction of yield and marketable fruit.

Spray programs for downy mildew are most effective when initiated prior to the first sign of disease. A range of fungicides are available for the control of downy mildew depending on the crop. Newer oomycete specific products are useful in combating the disease.

Lettuce downy mildew, caused by *Bremia lactucae,* has been observed and confirmed in the Glades. Growers should be on a consistent preventative program using mancozeb and a phosphite, and now that the disease is present should consider working in some of the more specific fungicides with translaminar or systemic activity such as Revus, Zampro, Ranman, Reason, Forum, Presidio, Previcur flex, Aliette, etc. A new fungicide, Orondis, has been demonstrated as being very effective in Florida, and could be a good candidate for the rotation. Read labels for plant back, use patterns, and rates before using pesticides.

Downy mildew on crucifers (Cole crops) has also been confirmed. Given the cool, wet weather, growers should be on a preventative fungicide program. In general, fungicides that are labeled for lettuce downy mildew also perform well against *Hyaloperonospora parasitica*, the crucifer downy mildew pathogen. Again, check labels before applying.

Powdery mildew

Around Immokalee, powdery mildew is common in squash and cucumbers.

Powdery mildew is also showing up on some pepper around SW Florida.

On the East Coast, powdery mildew is present at low levels in squash.

Powdery mildew is also causing problems on squash around Homestead.

Gummy stem blight

Is present at low levels in several watermelon fields but has shown little increase in recent weeks.

Phytophthora

Around Homestead, severe losses are being reported in squash affected by recent flooding.

On the East Coast, *Phytophthora* is causing problems on peppers and squash especially in areas where it is traditionally a problem and soils have been saturated by recent rains.

Around Southwest Florida, *Phytophthora* continues to cause major issues in peppers, squash and other crops especially in wet areas with a history of the disease.

Northern corn leaf blight

In the EAA, respondents indicate that low levels of northern corn leaf blight have finally made an appearance on corn with the arrival of cooler temperatures.

Southern Corn leaf blight

Southern Corn leaf blight continues to be reported on corn in the EAA.

Common Corn Rust

Common corn rust is present on some sweet corn at low levels.

Both common rust and southern corn rust produce similar symptoms with the formation of spore-bearing, reddish-orange to brown pustules (uredia) on leaves or husks.

Common rust typically produces pustules without a peridium or covering over the pustule. The pustule of southern corn rust is normally persistent. The color of the spore mass of common rust tends to be chocolate brown while that of southern corn rust tends to be orange.

The shape of the pustule also varies between the two diseases. Common rust tends to have elongated pustules and southern corn rust has somewhat rounded pustules**.**

Another distinguishing characteristic is the fact that the formation of pustules on the lower surface of the leaf is delayed and often absent with southern corn rust.

Identification of which rust is present can be done quickly with a microscope. Common rust tends to have rounded urediospores uniform in diameter whereas those of southern corn rust are oblong in shape.

Spray programs for rust should begin at the first sign. Foliar blights and rust may be successfully controlled using fungicides, if host-plant resistance is insufficient. Strobilurin and triazole fungicides work well and should be used in a program with the broad-spectrum protectant mancozeb.

Basil Downy Mildew

Downy mildew **pressure in basil has been relentless** and growers have to work hard to keep it in check.

Although few fungicides are specifically labeled for this disease, some broadly labeled fungicides which are labeled under the herb crop grouping on current labels, such as Ranman, Quadris and Amistar (Azoxystrobin) and the phosphonic acids have shown efficacy in managing the disease.

Recently Revus received a label for use in basil and provides excellent control of downy mildew when used early as a soil drench. These fungicides are most effective when applications are started before or just after initial symptoms are found.

Anthracnose

Around Southwest Florida growers and scouts indicate that anthracnose has slowed down significantly but not before really damaging some pepper fields.

Fusarium Crown Rot

Crown rot is causing some problems in older tomato fields around SW Florida.

Tomato Chlorotic Spot Virus

Around Southwest Florida, scouts are reporting no significant tospovirus recently, with only a few scattered single plants here and there in a few tomato fields.

The situation is similar in Palm Beach County tomato and pepper.

Homestead remains ground central for Tomato chlorotic spot virus with more symptoms recently showing up in tomato. Incidence has jumped in a number of fields reaching 50% in a couple of places.

Tomato Yellow Leaf Curl

Incidence and occurrence of TYLCV remains mostly low and spotty on tomatoes around South Florida, but is beginning to increase in a number of areas.

TYLCV remains mostly low in Palm Beach and the Manatee Ruskin area.

Respondents indicate that TYLCV incidence has reached in a number of fields around Homestead.

Growers are planting more virus resistant cultivars than ever and this has been a major help in keeping TYLCV levels low where utilized.

Cucurbit leaf crumple virus

Low levels of cucurbit leaf crumple virus reported in watermelons around Southwest Florida.

News You Can Use

SOUTH FLORIDA WINTER 2015-2016 RECAP

Wet and Stormy Winter - Record Rainfall at Several Locations

The well-advertised El Niño pattern made its presence felt this winter across south Florida in several ways. One of these is the much-above normal rainfall across the region this winter, particularly in December and January. All observing sites recorded no less than five (5) inches above the normal winter precipitation, with a number of sites in excess of 10 inches above normal. Eight (8) locations in south Florida recorded their wettest winter on record, including Miami, Miami Beach and Moore Haven (see table below for a full list) and several others ranking in the top 5 on record.

Number of days with measureable rainfall was much higher than normal; especially across the east coast metro areas where anywhere from 36 to 43 days of rain were observed compared to the normal of 21 to 23 days. Across the interior and Gulf coast, there were 20 to 26 days with measureable rainfall, more than the normal of 14 to 17.

Another hallmark of the strong El Niño was the marked increase in storminess this winter. A total of seven (7) tornadoes have been preliminarily confirmed across southern Florida, including:

- 1/27 EF-1 tornado in northern Broward County affecting Coconut Creek Pompano Beach
- 1/28 EF-0 tornado in southern Palm Beach County affecting Delray Beach and Boynton Beach (summary of the two January tornadoes)
- 2/16 EF-1 tornado in northern Broward County affecting Pompano Beach
- 2/16 EF-1 tornado in northeastern Miami-Dade County
- 2/16 EF-0 tornado in Glades County affecting Moore Haven
    - (this tornado may be upgraded to EF-1 following further analysis)
- 2/16 EF-0 tornado in Broward County affecting the Davie area
- 2/16 tornado in the Everglades of far eastern Collier County (no rating given)

In addition, on January 17th a line of strong to severe thunderstorms swept across south Florida and caused extensive tree damage in Naples, Golden Gate and Immokalee.

Winds with this storm were measured at 84 mph at Naples Municipal Airport and estimated as high as 90 mph in other parts of Collier County.

In addition to the tornadoes and thunderstorms, there were several flood events of note. From December 3rd through the 5th, flooding occurred across much of Miami-Dade County as a result of a stalled front over far southern Florida and the Florida Keys. The most significant flooding was on the 5th when several rounds of very heavy rainfall affected the southern portion of Miami-Dade County. As much as 10 inches of rain fell in the West Kendall area in less than 12 hours, with 6 to 9 inches of rain during that same time period from Kendall to Homestead. Main impacts of the flooding were to streets and agricultural areas.

Many streets were impassable the next day and some 70-80% of the winter vegetable crop was lost.

Why so much storminess? The strong El Niño pattern this winter led to a southward shift in the jet stream across the southern United States, mainly during January and February. This in turn created more opportunities for low pressure storm systems to move across the Florida peninsula from the Gulf of Mexico and is a classic signal during winters with a strong El Niño in place.

Following are December 2015-February 2016 rainfall totals, departure from normal in inches and ranking for selected locations:

Location (Beginning of Period of Record)	Dec 2015-Feb 2016 Rainfall (inches)	Departure from Normal	Rank
Big Cypress	17.18		
Brighton Reservation (Glades Co.)	15.43		
Canal Point (1941)	15.17	+8.73	2nd wettest
Cape Florida	22.63		
Fort Lauderdale/Hollywood Int'l (1912)	17.07	+8.02	3nd wettest
Fort Lauderdale Executive Airport	19.72		
Fort Lauderdale Dixie Water Plant	18.49		
Fort Lauderdale Beach	18.93		
Hialeah (1940)	16.98	+10.07	Wettest on rec.
Hollywood (1963)	16.56	+7.51	
Homestead General Airport (1990)	16.88	+11.71	Wettest on rec.
Immokalee (1970)	14.44	+7.99	2nd wettest
Juno Beach	21.00		
LaBelle (1929)	15.10	+8.95	3rd wettest
Marco Island	17.10		
Miami Beach (1928)	19.15	+12.68	Wettest on rec.
Miami International Airport (1895)	20.24	+14.33	Wettest on rec.
Moore Haven (1918)	17.47	+11.93	Wettest on rec.
Muse	15.98		

North Miami Beach	19.62		
Naples East/Golden Gate	19.00		
Naples Municipal Airport (1942)	10.34	+4.94	7th wettest
NWS Miami	21.18		
Oasis Ranger Station (1978)	13.64	+8.46	Wettest on rec.
Opa-Locka Airport	18.11		
Ortona (1940)	17.31	+10.97	Wettest on rec.
Palm Beach Gardens	19.36		
Palm Beach International Airport (1888)	19.90	+10.57	3rdwettest
Pembroke Pines – North Perry Airport	15.58		
Pompano Beach Airpark	17.48		
Miami Executive Airport – W. Kendall	28.63		
The Redland (1942)	25.07	+18.95	Wettest on rec.
South Bay (15S)	18.75		

Temperatures

Overall average winter temperatures were above normal, but this was due to the extremely warm and record-breaking December across all of south Florida. January and February temperatures were mostly cooler than normal which is more reflective of the typical El Niño temperature trend. Despite the cooler than normal temperatures, no freezing temperatures were observed at any south Florida official site, which is rare for any given winter season. The coldest observed temperature was 34 degrees in Ortona in southern Glades County on January 25th. The lack of significant cold episodes can be attributed to two main factors: increased cloud cover which kept nighttime temperatures warmer and the source region of the cold air masses this winter which was largely from the Pacific Ocean (instead of Arctic or polar).

The cooler temperatures were most noticeable in the form of daily high temperatures being 1 to 2 degrees below normal in January and 2 to 3 degrees below normal in February. In this case, the increased cloud cover and higher number of rainy days was a key factor in keeping daytime temperatures on the cooler side.

Overall, the number of "cool" days (sum of days in which either the low temperature dropped below 50 degrees or high temperature failed to reach 70 degrees ranged from 10 days in Miami to 20 in Naples. Individual days of lows below 50 and highs below 70 are indicated in the figure below.

Average December 2015-February 2016 temperatures, departure from normal in ^{o}F and select top 10 ranking:

Location (beginning of period of historical record)	Dec 2015 - Feb 2016 Avg Temp (^{o}F)	Departure From Normal (^{o}F)	Rank
Miami (1911)	71.0	+1.4	
Fort Lauderdale (1912)	71.0	+0.7	
West Palm Beach (1888)	69.4	+2.2	
Naples (1942)	68.8	+2.7	T-10th warmest

The coldest and warmest temperatures of the winter season at the main climate sites were:

- Miami International Airport: The lowest temperature recorded was 46 degrees on January 25th. The highest temperature was 86 degrees on February 24th.
- Palm Beach International Airport: The lowest temperature recorded was 40 degrees on January 24th. The highest temperature recorded was 84 degrees on the following days: December 28, 29, 30 and 31, January 1 and February 24th.
- Fort Lauderdale/Hollywood International Airport: The lowest temperature recorded was 44 degrees on January 24th. The highest temperature was 86 degrees on December 18th.
- Naples Municipal Airport: The lowest temperature recorded was 43 degrees on February 11th. The highest temperature was a record-breaking 89 degrees on December 25th.

Outlook for March-May

The outlook by the NOAA Climate Prediction Center for the period from March through May calls for equal chances of either cooler, warmer or near-normal temperatures, along with an enhanced likelihood of wetter than normal conditions.

Current indications are that the first half of March will be warmer and drier than normal as high pressure dominates the weather pattern over the next week

Despite the currently high groundwater levels and the outlook of wetter than normal conditions, March, April and May mark the typical peak of wildfire season as warmer temperatures can quickly dry out vegetation, especially during periods of little rainfall. All persons are urged to take measures to reduce the chance of wildfires. Visit the Florida Forest Service web site for more information on how to help prevent wildfires.

March and April also bring an increase in easterly winds to the area along with an increase in beach-goers. This significantly increases the risk of rip currents along the east coast beaches. A sharp increase in rip current-related drowning deaths and rescues occurs during the spring months due in part to this shift in the wind patterns and more people in the water. All residents and visitors visiting area beaches are strongly urged to heed the advice of Ocean Rescue lifeguards and swim near a lifeguard. Visit the National Weather Service Rip Current Awareness page for more information.

For the latest south Florida weather information, including the latest watches, advisories and warnings, please visit the National Weather Service Miami Forecast Office's web site at weather.gov/southflorida.

EPA Moves to Cancel Registration for All Flubendiamide-Based Insecticides

The EPA has issued a notice of intent to cancel all Bayer Crop Science and Nichino America flubendiamide products that pose a risk to aquatic invertebrates important to the health of aquatic environments. Flubendiamide is the active ingredient in Belt insecticide and one of the active ingredients in Vetica

Required studies showed flubendiamide breaks down into a more highly toxic material that is harmful to species, which are an important part of aquatic food chains. EPA concluded that continued use of the product would result in unreasonable adverse effects on the environment. EPA requested a voluntary cancellation in accordance with the conditions of the original registration.

After being informed of the EPA's finding on January 29, the companies were asked to submit a request for voluntary cancellation by February 5. They rejected EPA's request to submit a voluntary cancellation. Bayer had announced its intention to refute EPA's request.

Steve Rinker, Bayer Crop Science Technical Service Rep for Florida reports that at present nothing has changed in the field yet. Distributors can still sell Belt and growers can still buy and can still buy and apply Belt. If cancelation does happen sale and movement will stop but growers should still be able to use existing stocks.

In short. Belt is still labeled and can be used as normal, EPA has only stated its intent to cancel. Belt is not yet canceled.

The Facts on the Lake Okeechobee Releases

- US Sugar Press Release

We share in the frustration over the Lake Okeechobee discharges. We want to collaborate in finding solutions that improve water storage and reduce the risk of discharges occurring again. But the Sierra Club's reckless and mean-spirited attacks – which are part of their ongoing vendetta against sugarcane farmers – misdirect the focus away from any meaningful discussion of the facts that will lead us to real solutions. That these radicals are blaming a single company, U.S. Sugar, for systemic regional problems wrought by over 100 years of change is utterly ridiculous.

Here are the facts on the Lake Okeechobee releases:

FACT: Only 3% of the water and 4% of the phosphorous in Lake Okeechobee is coming from south of Lake Okeechobee, where the farming communities are located. (Source: South Florida Water Management District study "Past & Present Water Quality Conditions in the South Florida Water Management District, page 22. November 5, 2015)

FACT: As much as 80 percent of the nutrients are coming from the local basins in both the St. Lucie and Caloosahatchee estuaries. (Source: SFWMD, Update on Nitrogen Water Quality Conditions in the South Florida Water Management District).

Back Pumping – A Necessary Flood Control Measure Controlled by SFWMD, Not U.S. Sugar

Contrary to claims made by the Sierra Club and other activists, U.S. Sugar does not back pump into Lake Okeechobee. Controlled by the South Florida Water Management District, it is a necessary flood control measure that protects neighborhoods, businesses, schools, hospitals, and farms.

FACT: Back pumping only occurred over a period of 4 days (January 27th through January 31st) and accounted for 9 billion gallons in total. By comparison, until recently, the Army Corps was releasing 11 billion gallons per day. (Source: South Florida Water Management District statement, "Flood Control Operations Update." January 31, 2016)

More facts about back pumping:

U.S. Sugar does not pump water from its fields into Lake Okeechobee. Nor do any other sugarcane farmers.

Back pumping into the lake wouldn't even possible – U.S. Sugar's property does not connect directly to Lake Okeechobee.

Back pumping is strictly controlled by SFWMD.

Back pumping accounted for less than three quarters of an inch of the more than 13 inches of rain added to Lake Okeechobee in January.

Back pumping is conducted to protect Glades-area communities, businesses, hospitals, schools and farms from catastrophic flooding and according to SFWMD, benefits "thousands of families and businesses."

The Facts on Red Tide

In media reports, some activists have attempted to link the water from U.S. Sugar's farms to red tide blooms off the Gulf Coast. The science simply does not support this. Here is what Mote Marine Laboratory, the leading expert on Florida Red Tide, has to say about what causes red tide:

In contrast to the many red tide species that are fueled by nutrient pollution associated with urban or agricultural runoff, there is no direct link between nutrient pollution and the frequency or severity of red tides caused by *K. brevis*. Florida red tides develop 10-40 miles offshore, away from man-made nutrient sources. Red tides occurred in Florida long before human settlement, and severe red tides were observed in the mid-1900s before the state's coastlines were heavily developed. However, once red tides are transported inshore, they are capable of using man-made nutrients for their growth. (Source: Mote Marine Laboratory, "Florida Red Tide FAQs.)

What Local Leaders Are Saying About Reports on the Lake Okeechobee Discharges

Many community leaders in South and Southwest Florida are attempting to push back against the misinformation spread by groups like the Sierra Club. Here is what they are saying:

"You want to kill your tourism? Start talking about the toxic water in Lake Okeechobee and how it's discharging to our coastal communities. No. It's good, clean fresh water that a whole lot of people use for a drinking water source, including the fancy people over here on the coast. In fact, there's just too much fresh water in a saltwater environment. So definitely, technically, it's causing problems. But it's not toxic in the way people are connoting it is toxic. It is not." – D. Albrey Arrington Ph.D., Executive Director of the Loxahatchee River District, March 3, 2016, Water Resource Advisory Meeting

"Despite the initiation of increased Lake Okeechobee regulatory releases, over the last four days approximately 70% of the current water flow is runoff from the Caloosahatchee watershed. While championing the need to move water from Lake Okeechobee to the south, the City of Sanibel has consistently recognized our need for water storage within the Caloosahatchee watershed." – Sanibel Mayor Kevin Ruane, February 5, 2016

"The discoloration is caused almost entirely from naturally occurring tannins in the 1,400-square-mile Caloosahatchee River Basin involving runoff from 900,000 acres on both sides of the river. And yes, when you open the floodgates from Okeechobee, the brown water does come in huge volumes." – Lee County Commission Chairman Frank Mann, February 16, 2016

"While much of the attention right now is directed toward the Lake Okeechobee discharges, it's important to remember that 60 percent to 80 percent of the pollution that makes its way into the Caloosahatchee comes from our local basin runoff. – Lee County Commissioner Brian Hamman, February 5, 2016

"The Sierra Club and many Everglades Foundation supporters claim that agriculture in general, and sugar cane growers in particular, are destroying the state's waters. Never mind that the water that flows off sugar cane land is cleaner than when it flowed onto the land, far exceeding any state requirement. Never mind that sugar cane farmers actually have made the largest private investment, $400 million, for the restoration of the Everglades. And especially never mind that it isn't water from the Everglades Agricultural Area (EAA) that is ending up in the St. Lucie and Caloosahatchee rivers in the first place. Lake Okeechobee's water comes from the north, east and west. Only 5 percent of the water entering Lake Okeechobee comes from the south, and that water comes from our rural communities to protect homes and people from flooding, not from farms."
– Hendry County Commissioner Janet Taylor, February 26, 2016

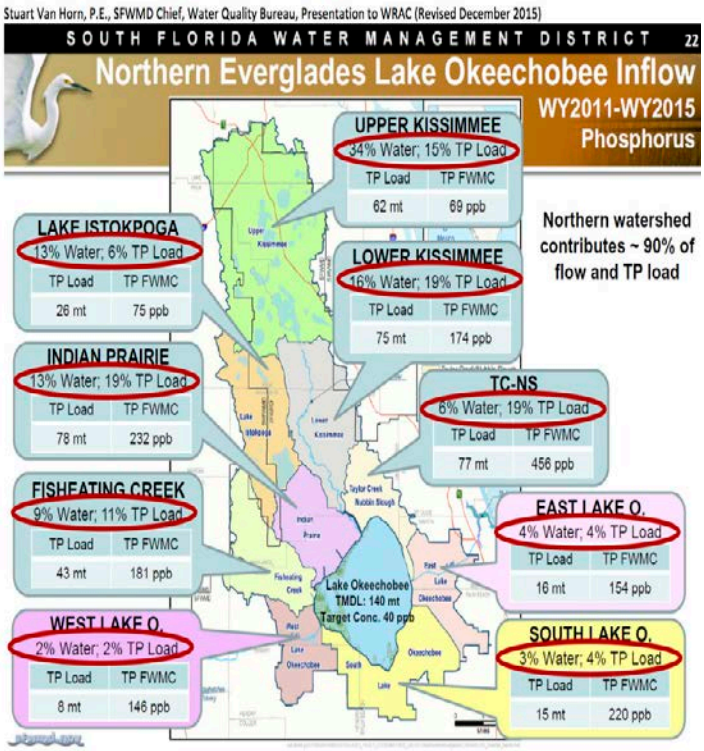
U.S. Sugar Farmers Are on the Front Lines of Water Quality Improvements

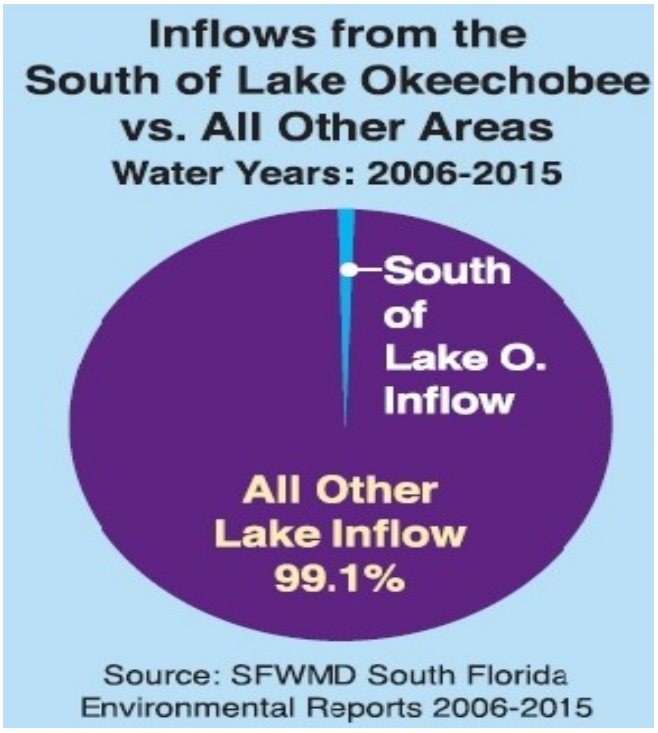
Last year, farmers in the Everglades Agricultural Area reached a historic milestone for water quality improvements—a 79 percent annual reduction of phosphorus in the water flowing from farms. This achievement continues a 20-year trend of farmers reducing phosphorus levels by an average of 56 percent annually (Source: South Florida Water Management District news release, "Everglades Water Quality Improvement Program Marks 20 Years of Success." August 13, 2015)

The improvements in water quality are the result of Best Management Practices (BMPs), which are industry-leading, innovative farming practices that help prevent soil sediment from being pumped with water as it moves off our farms. Some of the techniques include:

- Using high-tech lasers to level fields, reduce soil erosion and improve water control;
- Promoting vegetation growth along canal banks to trap soil sediment;
- Improving canal- and ditch-cleaning programs;
- Planting cover crops to minimize wind and water soil erosion; and
- Using precision agricultural testing and technology to manage crop nutrients.

These on-farm practices—paid 100 percent by the farmers—were researched and developed in conjunction with scientists at the University of Florida and the Institute of Food and Agricultural Sciences. EAA farmers were the first in Florida to implement extensive BMP programs, and their on-farm water and soil management techniques have served as the model for the Florida Department of Agriculture BMP program used statewide. In 2015, after being challenged in court, Florida's 2nd District Court of Appeals sided with the farmers by upholding the use of BMPs and noting the difference they are making in improving water quality across the EAA.





90% of the water and phosphorus flowing into Lake Okeechobee comes from the northern watershed, not from south of the lake.

Over a 10-year period, less than one percent of all the water entering Lake Okeechobee came from south of the lake. http://www.ussugar.com/releases/#

Up Coming Meetings

March 21, 2016 **Train the Trainer** **8:30 AM – Noon**
Row Crop Exam Prep **1:00 – 4:00 PM**

Hendry County Extension Office
1085 Pratt Boulevard
LaBelle, Florida 33935

RSVP requested. Classes are $10 each.

March 28, 2016 **Food Safety for Fruit and Vegetable Workshop** **12:00 PM – 4:30 PM**

UF/IFAS Miami-Dade County Extension
18710 SW 288 ST
Homestead, FL 33030.

Cost: $30 for registration online, and $45 at the door.

Online registration is required, go to
http://www.eventbrite.com/e/workshop-on-food-safety-for-fruit-and-vegetable-growers-tickets-22738655932

March 28, 2016 **CORE/Private Exam Prep and Test**
March 29, 2016 **Right of Way/Natl Area Exam Prep and Test**
April 1, 2016 **Aquatic Exam Prep and Test**

Hendry County Extension Office
1085 Pratt Boulevard
LaBelle, Florida 33935

RSVP requested. Classes are $10 each.

Contact Debra at 863-674-4092 or dcabrera@ufl.edu to register or for more information.

March 30, 2016 **UF/IFAS Public Meeting on FSMA** **9 AM – 3 PM**

UF/IFAS EREC
3200 E. Palm Beach Rd.
Belle Glade, FL 33430

Register at: http://rescheduled-ufifas-fsmamtg.eventbrite.com

March 31, 2016 **Cucurbit Scouting Workshop** **9:00 AM - Noon**

UF/IFAS Southwest Florida REC
2685 SR 29 N
Immokalee, FL 34142

Contact Debra at dcabrera@ufl.edu or 863-674-4092 to save a place.

April 1, 2016 ***Hogs, Dogs and Sustainable Beef*** **10:30 AM – 12 PM**

1st Friday Seminar Series
UF/IFAS EREC
3200 E. Palm Beach Rd.
Belle Glade, FL 33430

Raoul Boughton, Assistant Professor, Rangeland Scientist - Wildlife, Range Cattle Research and Education Center, Ona, FL

April 13, 2016 **UF/IFAS Certified Crop Adviser CEU Session** **7:50 AM - 6:30 PM**

Locations Include: Lake Alfred, Balm, Gainesville, Ft. Pierce, Tavares and Immokalee

Early registration fee is $100 per person payable through credit cards.

To register, please use the following link and pick the ticket to the center of your choice. Please remember to print your confirmation and the receipt for your records.

https://www.eventbrite.com/e/ufifas-cca-training-april-2016-registration-21633525457

May 3, 2016 **Fumigation Workshop** **TBD**

Hold the date – details to follow

Palm Beach County Extension
Clayton Hutcheson Ag Complex
559 N Military Trail
WPB, FL 33415

May 4, 2016 **Palm Beach International Agricultural Summit** **7:00 AM – 5:00 PM**

Palm Beach International Agricultural SUMMIT

PBC Convention Center
650 Okeechobee Blvd
West Palm Beach, FL 33401

Registration and details:
http://www.pbias.org/

May 4, 2016 **Fumigation Workshop** **TBD**

Hold the date – details to follow

UF/IFAS SWFREC
2685 State Rd 29 N
Immokalee FL (239)-658-3400

May 5, 2016 **Spring Vegetable Field Day** **9:00 AM - Noon**

Hold the date – details to follow

UF/IFAS SWFREC
2685 State Rd 29 N
Immokalee FL (239)-658-3400

Websites

Operation Cleansweep provides farmers, nursery operators, golf course operators, and pest control services a safe and economical way to dispose of their cancelled, suspended, and unusable pesticides. For more info, go to http://www.dep.state.fl.us/waste/categories/cleansweep-pesticides/

FDACs Office of Ag Water Policy - BMP Manuals – In addition to the newly revised Ag Row Crop BMP manual you will also find link to enroll in a BMP program. Note most growers will be required to renew their Notice of Intent. Go to http://www.freshfromflorida.com/Divisions-Offices/Agricultural-Water-Policy/Enroll-in-BMPs/BMP-Rules-Manuals-and-Other-Documents

Food Safety Modernization Act Final Rule on Produce Safety at
http://www.fda.gov/Food/GuidanceRegulation/FSMA/ucm334114.htm

Note: State and local budgets cuts are threatening to further reduce our funding – if you are receiving currently receiving the hotline by mail and would like to switch over to electronic delivery – just drop me an email. It is much quicker and you will get the hotline within minutes of my completing it and help conserve dwindling resources at the same time. Thanks to those that have already made the switch.

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The **South Florida Pest and Disease Hotline** is compiled by **Gene McAvoy** and is issued on a biweekly basis by the **Hendry County Cooperative Extension Office** as a service to the vegetable industry.

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