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SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE

May 3, 2016

The drier pattern which began in late February persisted across south Florida in April as high pressure dominated the weather pattern. All reporting stations recorded less than two inches of rain for the entire month, averaging about 2 inches below normal.

A few cold fronts crossed central Florida in mid-April bringing severe thunderstorms with large hail up to 2 inches in diameter in some locations, gusty winds up to 50-55 mph and localized flooding across metro Palm Beach County from Jupiter to Delray Beach.

FAWN Weather Summary

Date	Air Temp °F		Rainfall (Inches)	Ave Relative Humidity (Percent)	ET (Inches/Day) (Average)
	Min	Max			
Balm					
4/12 – 5/3/16	56.10	92.89	0.38	74	0.16
Belle Glade					
4/12 – 5/3/16	57.00	90.68	0.08	79	0.16
Clewiston					
4/12 – 5/3/16	57.16	92.10	1.34	74	0.16
Ft Lauderdale					
4/12 – 5/3/16	61.32	90.03	0.18	71	0.16
Homestead					
4/12 – 5/3/16	58.66	88.54	0.40	74	0.13
Immokalee					
4/12 – 5/3/16	51.98	95.04	1.25	73	0.16
Okeechobee					
4/12 – 5/3/16	56.16	92.21	0.54	78	0.15

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Crops coming to market include beets, cantaloupe, collards, cucumber, eggplant, green beans, herbs, lettuce, kale, pepper, radishes, squash, sweet corn, Swiss chard, tomato, watermelons and various specialty items. Watermelon harvest is picking around South Florida after a slow start. Prices for many items have fallen with increased volume and improved quality. Growers are backing off spraying in response to low prices for some items. Production in Homestead and south Florida is winding down as production transitions to Central Florida and South Georgia.

The National Weather Service forecast indicates that a cool front will move across south Florida tomorrow bringing showers and thunderstorms and breezy conditions. Clear skies and cooler drier weather will prevail toward weekend with highs in the low – mid 80's and lows in the upper 50's to low 60's.

For additional information, visit the National Weather Service in Miami website at <http://www.srh.noaa.gov/mfl/newpage/index.html>

Insects

Pepper Weevil

Around SW Florida, pepper weevil pressure is extreme. Growers and scouts report it seems they started earlier than in past years and became widespread across the area very quickly. Some small plantings which did not make any harvestable fruit due to extreme weevil pressure have been abandoned. Weevil adults have starting migrating out of pepper fields where they have consumed most bud/blooms and are finding eggplant fields. They will feed on eggplant buds/blooms and can cause all of the growing points and blooms to abort.

Respondents in Palm Beach County report pepper weevils have very high and growers are walking away from some fields were they have become uncontrollable. Weevils are also causing problem in eggplant as well.

Reports from the Manatee/Ruskin area indicate that weevils are increasing and becoming an issue in some pepper.

Pepper weevil remains a major problem in Miami Dade County and are widely present in many plantings. Weevils are also abundant on eggplants which are sometimes grown year round in Homestead.

Growers should avoid planting pepper near eggplant fields and scout their fields regularly to detect infestations early. Actara, along with the diamides and pyrethroids can be used in a program to control weevils.

Unfortunately Vydate a long time stand-by for weevil control has not been available since last year.

DuPont has issued a Technical Information Bulletin on Pepper weevil management with DuPont™ Exirel®, which may provide another option for growers. See <http://bit.ly/20zFFzI>

Thrips

Around Southwest Florida, melon thrips (*Thrips palmi*) are flaring up in several of the remaining pepper fields. *Thrips palmi* are also building up in some watermelons causing some leaf bronzing and minor rind scarring

Thrips are active in beans in Devils Garden and the EAA and thrips vectored bean red node virus is increasing around the Glades.

Reports from Palm Beach County indicate that thrips are increasing in all areas. Scouts report finding both western flower thrips in pepper, eggplant and even some tomato and melon thrips in cucurbits. Growers report high numbers in some pepper with heavy fruit damage.

Around Miami Dade County melon thrips abundance remains high on a variety of crops including eggplant, squash, cucumber, beans and okra. As the season nears the end, thrips are concentrating on the few locations with new crops. Growers should clean their fields shortly after final harvest to break reproductive cycles of these pests.

Common blossom thrips and Western flower thrips, vectors of TCSV and other tospoviruses, are also present in Miami Dade at mostly low numbers. Reports indicate TCSV incidence is very high in some tomato fields. Vegetable growers should keep their field edges free from the weeds hosts.

Dr Hugh Smith, Entomologist at UF/IFAS GCREC reports that flower thrips are infesting watermelon and pepper crops in Hillsborough County. Species mixtures vary at different sites. Samples from one pepper field comprised over 95% Florida flower thrips with low numbers of western flower thrips, while samples from a distinct pepper crop comprised 64% western flower thrips, 21% Florida flower thrips, 10% *Frankliniella cephalica* (which closely resembles Florida flower thrips), and 5% common blossom thrips. Samples from a watermelon field contained 55% western flower thrips, 26% Florida flower thrips, and 19% percent common blossom thrips.

Hugh notes that Florida flower thrips is usually the primary flower thrips species on horticultural crops and wild flowering plants in Hillsborough County. Florida flower thrips tends to be susceptible to most insecticides, while western flower thrips and common blossom thrips often exhibit higher levels of tolerance to key insecticides.

Peppers can tolerate high numbers of Florida flower thrips without suffering damage, which typically appears as “zippering” on the fruit. Little information is available on thrips damage to watermelon. Pollinators are essential for watermelon production, and many insecticides registered for control of thrips in watermelon may be harmful to pollinators.

Insecticides that should have limited negative impact on pollinators include Rimon 0.83 EC (novaluron, mode of action #15), a growth regulator that prevents immature thrips from completing development, and biopesticides, such as azadirachtin-based products, as well as insecticidal soaps and oils. Insecticidal soaps and oils can cause phytotoxicity to watermelon if applied when temperatures are high.

Minute pirate bugs are effective predators of thrips and will colonize most crops infested with thrips if broad spectrum insecticides are not used. Please check the Florida Vegetable

Production Handbook for information on insecticides registered to control thrips and other pests in peppers and watermelon.

Anyone wishing assistance with thrips identification should contact Hugh Smith at the Gulf Coast Research and Education Center (hughasmith@ufl.edu; telephone 813 633 4124).

Whiteflies

Around Immokalee, whiteflies are moving around as fields are finished. Numbers have increased quickly in some areas and whitefly nymphs are starting to build in several crops including tomato, squash and watermelon. Nymphs can build up quickly when adults are high and it doesn't take long to get into some sooty mold issues.

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, whitefly pressure has been up and down but numbers appear to be increasing in cucurbits and tomatoes with good numbers of whitefly pupae showing up in the field.

On the East Coast, respondents indicate that whitefly pressure is variable depending on the location.

Worms

Growers and scouts in the EAA report that worms increasing seasonally but note that numbers remain at normal

Around SW Florida, worms remain active and scouts report that looper pressure is increasing in many crops. Armyworms, fruitworms, loopers and melonworms are showing up in watermelons as rindworms.

Respondents in the Manatee Ruskin are reporting steady pressure from a variety of worms especially loopers and southern armyworm. Growers report problems in managing cabbage looper and indicate that they seem to be able to kill armyworms but not loopers. A few pinworm are showing up in tomato. Growers are also starting to see some melonworm and pickleworms in cucurbits.

Around Homestead, vegetable season is coming to an end but growers continue to battle diamondback moth, fall armyworm, beet armyworms and melonworm with beet armyworm widely present on a variety of hosts.

DBM numbers in cabbage and other crucifers have been extremely high around the state and a number of growers report difficulty in obtaining control. Diamondback moths may become a growing issue as growers produce more Cole crops over a longer season in South Florida.

Growers should get good control with Coragen, Rimon, Radiant, Exirel, Belt, Intrepid and Avaunt with Bt (*Bacillus thuringiensis*) based insecticides used in between application of above named products. It is extremely important for growers to rotate modes of action on the DBM because of its propensity to develop resistance. Terminating crops as early as possible and cleaning up fields promptly and thoroughly will pay dividends next season.

Leafminer

In the Manatee/ Ruskin area, leafminer pressure has been high and constant in tomato and beans but may beginning to decline. Growers are reporting good control with Abamectin, Exirel, Radiant, and Coragen.

Around Southwest Florida, leafminers remain mostly low but some problems in eggplants are being reported.

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

Broad Mites

Around Southwest Florida, broad mites continue to cause issues pepper and eggplant

On the East Coast, broad mites continue to cause problem in pepper and eggplant. Broad mites have also been reported in cucumber.

Broad mites are widespread around Miami Dade County. Soaps and oils can provide effective control if infestations are detected and treated early.

Aphids

Corn aphids are beginning to show up on corn ear flag leaves in the EAA.

Around Southwest Florida, scattered aphids are still moving around and colonies are developing in some crops.

Respondents in Palm Beach County report that aphids are still an issue in pepper and eggplant in some areas and growers are applying control measures as needed.

Corn Silk Fly

Around Belle Glade, silk fly pressure remains constant at mostly moderate levels and growers are spraying to manage this pest.

In Miami Dade County, silk fly numbers remain mostly low but populations are starting to increase on crop residues. Dr. Dak Seal, Entomologist at UF/IFAS TREC reports Certis Bait pellets show significant reduction of CSF adults and CSF damage on corn ears.

Spider Mites

Reports indicate that spider mites are increasing in tomato eggplant and melons in a number of locations around South Florida.

Growers and scouts in Palm Beach County report mites are an increasing issue with dry weather on eggplant, peppers and to a lesser degree: corn, and beans in drier areas.

Sap Beetles

In the EAA, occasional sap beetles are being reported in low numbers on corn primarily in conjunction with worm damaged ears.

Diseases

Target Spot

Around Immokalee, foggy conditions have been sufficient to keep target spot active in tomato.

In the Manatee/Ruskin area, target spot is low to moderate but remains an issue in many tomato fields.

On the East Coast, low levels of target spot remains active in older tomatoes and is also causing issues in some cucumber fields.

Target spot has been the main problem on tomatoes throughout the growing season and has emerged as the number one disease in tomatoes in Florida. Growers report good results tank mixing newer products like Fontelis, Inspire Super, Scala, Quadris Top, and Switch with mancozeb or chlorothalonil.

Bacterial Spot

Around Southwest Florida, there has been enough rain and wind around in places to keep bacterial spot moving around in tomatoes and peppers.

On the East Coast, bacterial spot remains active in 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.

Mostly low levels of bacterial spot continue to be reported on tomato in the Manatee Ruskin area

Bacterial spot is remains a problem in some late pepper and tomato in the Homestead area but dry weather has helped check its progress.

Phomopsis

Low levels of Phomopsis continues cause problems with eggplant producers but pressure appears to be decreasing.

Alternaria

Report from Homestead indicate that Alternaria leaf spot is increasing on some cucurbits such as bitter melon.

Low levels of Alternaria has also been diagnosed in some watermelons around SW Florida.

Some Alternaria has been reported on green beans in the EAA at mostly low levels but growers should remain alert.

Late Blight

Dr Gary Vallad advises late blight reappeared in Manatee and Hillsborough Counties in mid-April when his lab has identified tomato field sites in with late blight.

Downy mildew

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

Around Southwest Florida, downy mildew remains a problem on cucumbers and squash and a few watermelons 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 caused by rainfall, dew, or irrigation. 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 since once a planting becomes infected; it becomes more and more difficult for fungicides to control downy mildew. A range of fungicides is available for the control of downy mildew depending on the crop. Newer oomycete specific products are useful in combatting the disease.

Lettuce downy mildew is still being seen in the EAA but at very low levels due to the heat

Powdery mildew

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

On the East Coast and in the Manatee Ruskin area, powdery mildew is increasing in squash. Growers report Vivando and Torino appears to be providing good control.

Powdery mildew is also causing problems on squash around Homestead.

Around the EAA, powdery mildew is very low in beans but it may slip in if growers are not vigilant.

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

Powdery mildew has recently jumped up in watermelon in several locations around South Florida.

Powdery mildew of watermelon is a fairly recent phenomenon in Florida. Within the past few years, powdery mildew of watermelon has been on the increase in many watermelon production areas in Florida and powdery mildew is now showing up widely in melon fields around South Florida.

Although a complete understanding of this shift in pathogenicity is not available, it may be due in part to the fact that much of the states watermelon acreage is now produced on drip irrigation which maintains dry foliage compared to other types of irrigation. Historically, powdery mildews tend to be more severe on plants grown in drier climates. Dry weather limits diseases like gummy stem blight but favors powdery mildew.

Dry weather favors powdery mildew over other leaf diseases, because powdery mildew spores contain water that allows them to germinate on dry leaves.

Powdery mildew develops rapidly under favorable conditions. Symptoms of powdery mildew of watermelon appear as yellow blotches on the oldest leaves first. If untreated the fungus quickly spreads to completely affect the entire leaf. As the disease progresses these blotches become bronzed and turn dark brown or purplish. Eventually the leaf dies and has a crisp texture.

Powdery mildew can be difficult to diagnose in the field as the white masses of sporulation that are frequently seen with powdery mildew on other crops are not commonly seen with the powdery mildew of watermelon. In some cases affected leaves may display the typical yellowing, bronzing, and a fair amount of white powdery fungal growth. Often little or no white powdery mycelia are present and in these cases microscopy may be necessary to find a limited amount of the powdery mildew fungus in the yellowed areas. In some instances, powdery mycelia may be absent on the leaves but present on the fruit.

Powdery mildew can cause fruit to be smaller in size, fewer in number, less able to be successfully stored, sun scalded, incompletely ripe, and have a poor flavor.

Growers who wish to minimize the risk of yield loss to powdery mildew should make preventative fungicide applications and scout fields regularly.

Powdery mildew develops quickly under favorable conditions. The time between infection and symptom appearance is only 3 to 7 days and a large number of conidia can be produced in a short time.

Favorable conditions include dense plant growth and low light intensity. High relative humidity is favorable for infection; however, infections can take place as low as 50% RH.

Dryness is favorable for sporulation, dispersal and infection. Rain and free moisture on the plant surface are unfavorable to the development of the disease. Temperatures of 68-80°F are most favorable for the disease but infection can occur between 50-90°F

Plants in the field often do not become affected until after fruit initiation.

Crop rotation and many other cultural practices have limited effect on the incidence and development of powdery mildew. Selecting a site with good air circulation and low humidity may

help reduce infections. New plantings should be separate from old plantings to avoid the spread of innoculum. Control of cucurbit weeds and other weeds may also be helpful.

In general, healthy, vigorous leaves and stems are less prone to infection. Plants under nutritional stress in most cases will develop powdery mildew much sooner than plants the same age grown under a good nutritional program.

Growers should check 10 plants per field and 5 leaves per plant for a total of 50 leaves. Initial infections often occur on older leaves near the crown of the plant. Be sure to check both the upper and lower side of each leaf.

The fungus is best controlled with fungicide applications when symptoms are first observed.

Early in the crop preventative applications of chlorothalonil (Note: chlorothalonil should not be used after fruit have begun to size to avoid sunburning), will provide some protection against powdery mildew.

Once the disease has been detected growers should switch to more efficacious materials such as Folicur, Fontelis, Inspire Super, Luna Sensation, Pristine, Quintec, Switch Torino and Vivando which have all shown good efficacy. Note some of these materials have a 7 PHI and may not be appropriate for use during the harvest period so be sure to check the label

Do not stop spraying until one week before the final pick. Powdery mildew can attack any time a crop goes more than a week without a fungicide application.

Resistance management involving the rotation of fungicides of differing modes of action is especially important in combating powdery mildew as this disease has historically proven quite adept at developing resistance to fungicides with a specific mode of action. Growers should be sure to follow labeled instructions regarding the number of applications per season and rotate between different fungicide classes.

Sulfur, potassium bicarbonate, Regalia, Serenade Max, and copper products may provide some control for organic producers. Micronized sulfur can be quite effective but may burn foliage under the high temperatures experienced in the late spring in south Florida.

Consult UF/IFAS recommendations for currently labeled fungicides for powdery mildew control on watermelon in Florida.

Gummy stem blight

Gummy stem blight continues to flare up in a few watermelon fields around Southwest Florida.

Growers and scouts are also reporting some gummy stem blight on cucumber and squash in some East Coast locations.

Phytophthora

On the East Coast, Phytophthora continues to cause problems on eggplant, peppers and squash especially in areas where it is traditionally an issue.

Around Southwest Florida, Phytophthora continues to cause issues in peppers, squash and other crops especially in wet areas affected by this season's rainy weather with a history of the disease.

Southern corn leaf spot

In the EAA, disease has been light in corn this spring with SCLB being the disease of greatest incidence rather than NCLB. Presumably this has been due to the largely warm weather.

Common rust

Common rust has been very low in sweet corn this season.

Bean rust

Some rust reported on beans around the EAA, but other diseases have been light. With the coming warmer temperatures, white mold will be less of a concern, and Alternaria and powdery mildew may sneak in.

Erwinia soft rot

Some bacterial soft rot being reported on lettuce in the EAA where rains have been heavy and where heads are experiencing growth cracks due to heat.

Soft rot is also causing some issues in some tomato primarily heirloom varieties.

Northern corn leaf spot

A fair amount of Northern corn leaf spot (*Bipolaris zeicola*, formerly *Helminthosporium carbonum*) has been seen on some varieties in the EAA but this disease is usually much less severe than SCLB or NCLB and it usually occurs during earlier crop growth rather than later. This disease is favored by moderate temperatures and humid weather.

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.

Fusarium

Reports from Manatee County indicates that R3 Fusarium is moving fast on a couple of tomato farms but most growers are not experiencing problems.

Tobacco streak virus

Bean Red Node (BRN) is caused by the thrips transmitted tobacco streak virus (TSV). Thrips populations have been very high this spring and BRN incidence is also high.

This is also the time of year when Tobacco streak virus usually shows up big time on escarole and endive. Transmitted by thrips, growers should be aware of this when controlling ditchbank weeds, as thrips typically migrate in from field edges. Delay mowing or spraying weeds until your crop is in if planted near a field border or control thrips in crops and weedy borders with an insecticide spray.

Tomato Chlorotic Spot Virus

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

The situation is similar in Palm Beach County with only a few scattered infected tomato and pepper plants being reported.

Homestead remains the ground central for Tomato chlorotic spot virus and growers report that they are beginning to see more symptoms of the disease 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 to moderate and spotty in occurrence on tomatoes around South Florida, but some respondents report it has reached very high levels in some tomato fields.

TYLCV is increasing around Palm Beach and is causing problems in tomato.

TYLCV remains mostly low in the Manatee Ruskin area.

Respondents indicate that TYLCV incidence has reached high levels 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 employed.

Watermelon mosaic

Watermelon mosaic (papaya ringspot virus) is widespread in a number of watermelon fields around Southwest Florida at much higher incidence than has been seen in a number of years despite relatively few aphids.

Cucurbit Yellow Stunting Disorder Virus

Cucurbit Yellow Stunting Disorder Virus is widespread in a number of watermelon fields around Southwest Florida and along with watermelon mosaic virus appears to be the predominant viruses present in watermelon this season.

Infected cucurbit plants initially show a chlorotic (yellow) spotting, which eventually develops into a striking interveinal chlorosis (yellowing) in which the veins remain more or less green but the rest of the leaf turns bright yellow. Leaves will often roll upward and become brittle. Older leaves on infected plants may shrivel and die. Fruit on infected plants may appear normal but often have reduced levels of sugars which could affect marketability. Symptoms of Cucurbit yellow stunting disorder virus infection can be confused with nutrient deficiency. In some instances, vines may collapse rapidly as plants approach maturity.

Cucurbit yellow stunting disorder virus is spread from plant-to-plant exclusively by the silverleaf whitefly, *Bemisia tabaci*. The virus is not transmitted mechanically (by touch) nor is it seed-transmitted. Consequently, the disorder is almost always associated with whiteflies; it does not take many insects to spread the virus. It can take 3 to 4 weeks for disease symptoms to develop following infection.

Squash vein yellowing virus

Squash vein yellowing virus (SqVYV) which has been conspicuously absent for the past few years, has recently shown its ugly head and has hit some fields around SW Florida hard. Squash vein yellowing virus which many growers refer to as "vine decline" is transmitted by whiteflies and in severe cases causes rapid vine collapse of mature plants and 100% plant death.

Cucurbit leaf crumple virus

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

News You Can Use

APRIL 2016 WEATHER SUMMARY - SPRING DRYNESS CONTINUES

The dry pattern which began in late February persisted across south Florida in April as high pressure continued to dominate the weather pattern. All reporting stations recorded less than two (2) inches of rain for the entire month, averaging about 2 inches below normal. This represents less than 50 percent of the normal April rainfall, with portions of interior and metro southeast Florida at less than 25 percent. As a result, many south Florida observing sites recorded among their top 20 driest Aprils on record. Several stations failed to receive even a half-inch of rain for the entire month, with South Bay/Okeelanta having the lowest monthly total of only a tenth of an inch.

Here are April rainfall totals for select South Florida sites:

Location (Beginning of Period of Record)	April 2016 Rainfall (inches)	Departure from Normal/Rank
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Big Cypress	0.45	
Brighton Reservation (Glades Co.)	0.93	
Cape Florida	1.02	
Canal Point (1941)	1.74	-0.88
Fort Lauderdale/Hollywood Int'l (1912)	0.73	-2.16/16th driest
Fort Lauderdale Dixie Water Plant	0.25	-3.27
Fort Lauderdale Executive Airport	0.17	
Fort Lauderdale Beach	1.45	
Hialeah (1940)	0.56	-2.98 / 8th driest
Hollywood (1963)	1.34	-1.55
Homestead General Airport (1990)	0.62	-2.43/3rd driest
Immokalee (1971)	1.33	-1.06/12th driest
Juno Beach	0.80	
LaBelle (1929)	0.94	-1.37/17th driest
Marco Island	0.73	
Miami Beach (1928)	0.40	-2.80/ T-8th driest
Miami International Airport (1911)	1.09	-2.05/18th driest
Moore Haven (1918)	1.39	-0.94
Muse	0.29	
North Miami Beach	0.90	
Naples East/Golden Gate	1.35	
Naples Municipal Airport (1942)	0.47	-1.89/15th driest
NWS Miami	0.84	-2.51
Oasis Ranger Station (1979)	1.96	-0.78
Opa-Locka Airport	0.12	
Ortona (1940)	0.27	-2.20/ Driest on rec.
Palm Beach Gardens	0.70	
Palm Beach International Airport (1888)	1.46	
Pembroke Pines – North Perry Airport	0.44	
Pompano Beach Airpark	1.55	
Miami Executive Apt – West Kendall	0.20	
The Redland (1942)	1.35	-1.66/15th driest
South Bay/Okeelanta	0.10	

There were two main rain-producing weather events in April: the most significant one on April 15th from a cold front across central Florida which led to severe thunderstorms with large hail up to 2 inches in diameter, winds of 50-55 mph and localized flooding across metro Palm Beach County from Jupiter to Delray Beach. Excessive lightning also occurred with these storms which led to the unfortunate death of a 23-year-old man who was struck by lightning in his front yard in Boynton Beach.

The other weather event of note in April was on the 22nd ahead of another cold front, causing scattered strong thunderstorms over interior sections of south Florida. The primary impact from these storms was gusty winds.

TEMPERATURES

With the exception of two periods of slightly cooler than normal temperatures from the 6th to the 10th and from the 17th through the 19th, warmer than normal temperatures prevailed across south Florida. April temperatures generally averaged 1 to 2 degrees above normal. Below are individual statistics for each of four main climate sites:

Miami International Airport recorded an average April temperature of 77.1 degrees Fahrenheit. This is 1.3 degrees above the 30-year normal for April and is tied for the 20th warmest April on record (going back to 1895). The average high temperature was 84 F. The average low temperature was 70 F. The hottest reading of the month was 91 degrees on the 2nd. The coolest reading was 65 degrees on the 6th and 10th.

Fort Lauderdale/Hollywood International Airport recorded an average April temperature of 76.9 degrees Fahrenheit. This is 0.7 degrees above the 30-year normal for April and is tied for the 12th warmest April on record (going back to 1911). The average high temperature was 83F. The average low temperature was 71F. The hottest reading of the month was 90 degrees on the 2nd. The coolest reading was 64 degrees on the 9th and 10th.

Palm Beach International Airport recorded an average April temperature of 75.8 degrees Fahrenheit. This is 2.0 degrees above the 30-year normal for April and is the 18th warmest April on record (going back to 1889). The average high temperature was 83F. The average low temperature was 69F. The hottest reading of the month was 90 degrees on the 2nd. The coolest reading was 58 degrees on the 10th.

Naples Municipal Airport recorded an average April temperature of 75.4 degrees Fahrenheit. This is 2.1 degrees above the 30-year normal for April and is tied for the 13th warmest April on record (going back to 1942). The average high temperature was 85F. The average low temperature was 66F. The hottest reading of the month was 91 degrees on the 30th. The coolest reading was 55 degrees on the 10th.

Outlook for May-July

[The outlook by the NOAA Climate Prediction Center](#) for May through July calls for an increased likelihood of above normal temperatures and a slightly increased likelihood of above normal precipitation (Figure 3). The weakening El Niño pattern and transition to neutral-phase El Niño Southern Oscillation (ENSO) typically leads to lower than normal confidence in long-range outlooks.

May marks the beginning of the rainy season which normally starts around the third week of the month. The early part of the rainy season (May and June) is when severe weather most often occurs over south Florida. Therefore, episodes of strong thunderstorms with excessive lightning, gusty winds, hail, flooding and even tornadoes are possible. Stay alert to the possibility of severe weather, particularly lightning which is an increasing threat in the first part of the rainy season. Good lightning safety tips can be found [at this site](#).

Lingering dryness in May before the onset of the rainy season means that wildfires can be quite common, and often started by lightning.

Hurricane season begins in June, which means there's no better time than now to begin getting ready. Websites such as ready.gov provide good preparedness tips.

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.

The Deadliest Animal in the World

By Bill Gates

|April 25, 2014

What would you say is the most dangerous animal on Earth? Sharks? Snakes? Humans?

Of course the answer depends on how you define dangerous. Personally I've had a thing about sharks since the first time I saw Jaws. But if you're judging by how many people are killed by an animal every year, then the answer isn't any of the above. It's mosquitoes.

What makes mosquitoes so dangerous? Despite their innocuous-sounding name—Spanish for “little fly”—they carry devastating diseases. The worst is malaria, which kills more than 600,000 people every year; another 200 million cases incapacitate people for days at a time. It threatens half of the world's population and causes billions of dollars in lost productivity annually. Other mosquito-borne diseases include dengue fever, yellow fever, zika and encephalitis.

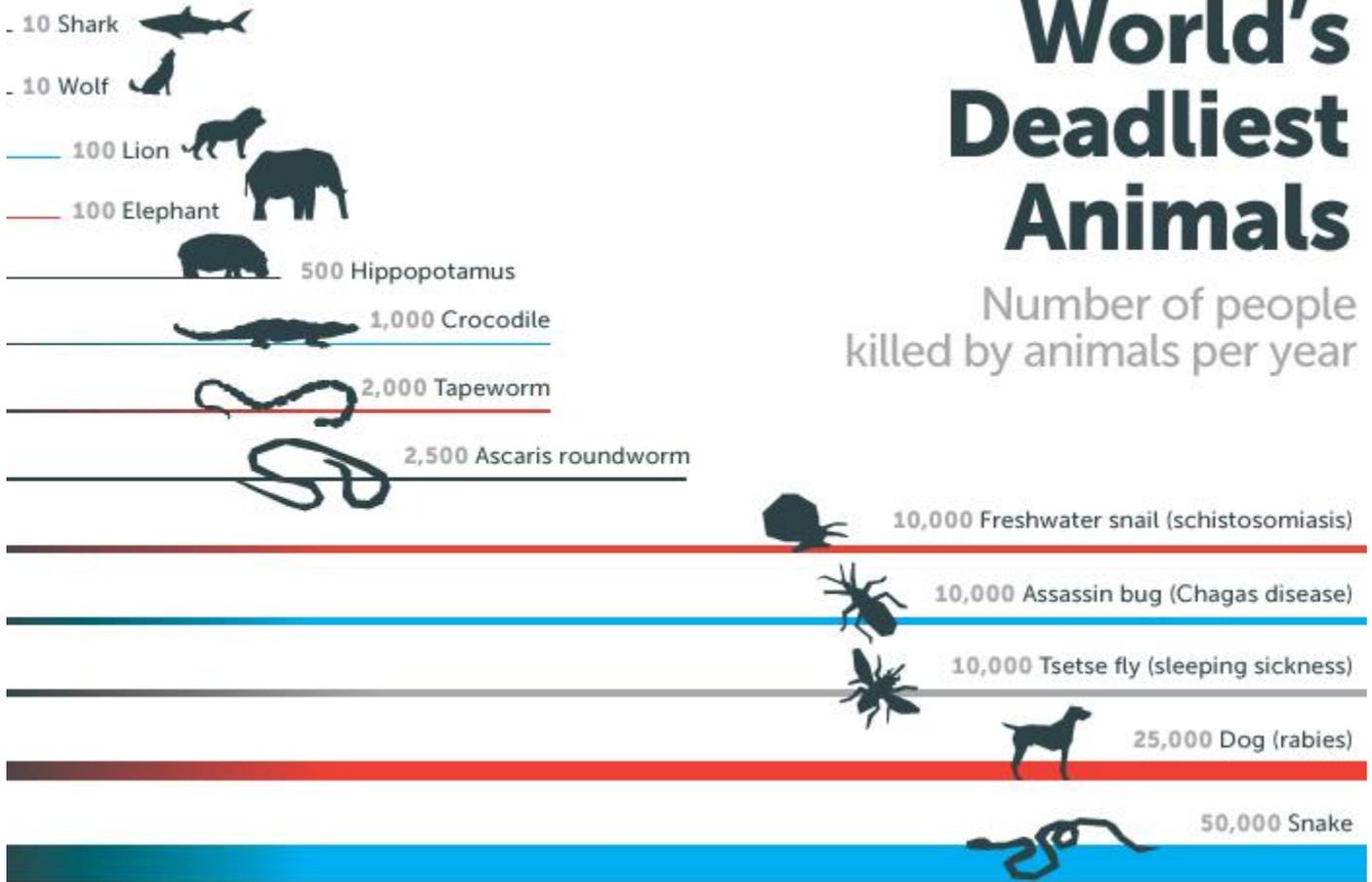
There are more than 2,500 species of mosquito, and mosquitoes are found in every region of the world except Antarctica. During the peak breeding seasons, they outnumber every other animal on Earth, except termites and ants. They were responsible for tens of thousands of deaths during the construction of the Panama Canal. And they affect population patterns on a grand scale: In many malarial zones, the disease drives people inland and away from the coast, where the climate is more welcoming to mosquitoes.

Considering their impact, you might expect mosquitoes to get more attention than they do. Sharks kill fewer than a dozen people every year and in the U.S. they get a week dedicated to them on TV every year. Mosquitoes kill 50,000 times as many people, but if there's a TV channel that features Mosquito Week, I haven't heard about it.

When it comes to killing humans, no other animal even comes close. Take a look:

World's Deadliest Animals

Number of people killed by animals per year



475,000
Human



725,000
Mosquito

Labelle, FL: The Town Where Time Stood Still....

Our story begins on June 3, 1926, when an innocent man lost his life at the hands of a lynch mob.

A laborer, Henry Patterson, came to the back door of a LaBelle home seeking a drink of water. The housewife panicked and ran screaming from her house.

Rumor and hysteria fueled the fires of tragedy as the veneer of civilization fell away from ordinarily quiet, law-abiding men on a day they and their descendants remember with shame and regret.

Attempts were made to prosecute those responsible for the lynching, and eventually about a dozen men were indicted. The victim had been shot many times, but the evidence was conflicting, and many people were involved.

The judge, presiding over his courtroom in the Hendry County Courthouse, declared it was impossible to fix blame on any particular persons. Consequently there were no convictions; and the case was dismissed.

After the lynching, the spring weather was hot and dry. There had been little rain, and farmers were anxiously watching the sky. Eventually clouds began to form, and a welcome rain was anticipated. As the clouds built up, the sun was blotted out. Thunder boomed and rumbled in the distance, but when the rain came, it was only a few spattering drops, barely enough to dampen the dust in the unpaved streets.

Suddenly, a shattering crash seemed to shake the earth, followed by the strange tolling of a bell. Lightning had struck the courthouse clock tower, smashing and burning the clock works and motor. The vibrations of the bell seemed to linger as the storm swiftly passed and the clouds rolled away.

It was an accident of nature, of course, and the county commissioners quickly repaired the clock. Then it happened again – and again. The wiring was re-inspected, lightning rods were installed on the tower and the tiled courthouse roof. Every conceivable precaution was taken, but nothing seemed to do any good. Repeatedly the clock was repaired, and each time, lightning smashed again into the tower.

The story began to circulate that the repeated lightning strikes on the courthouse weren't really accidents of nature, but a sign of God's anger against the town. "Bosh," snorted the commissioners, and repaired the clock. However, after each repair, lightning struck again.

Then on July 4, 1929, as citizens prepared to observe the holiday, there came a bolt so vicious and terrifying that everyone in town was stunned. People rushed into the courthouse and stood aghast. The lightning had smashed a large section of cornice stone from the top of the tower. The huge stone had crashed through the roof and buried itself in the floor, almost on top of the judge's bench in the courtroom where the abortive trial had been held. This time, there was no ignoring the charge of "divine retribution."

Newspapers across the state picked up the story and pointed fingers at LaBelle, and the legend spread that time would stand still and the town would live with the symbol of its guilt until God's wrath was appeased.

In desperation, the commissioners had the clock dismantled and its works stored in the courthouse basement. They removed the hands from the clock, and its four faces remained, mute and useless, a landmark visible from every direction. But now many averted their eyes, for its presence was a grim and constant reminder of the events of that terrible day.

Years passed and changes took place. The town grew and new people arrived. Old people died, babies were born, and life went on. People didn't want to be reminded of the lynching and didn't talk about it and newcomers had never heard of it. The townspeople became so accustomed to seeing the courthouse clock

without hands that some began to assume there had never been any. At least one book was published with a photograph of the courthouse and annotation that things were so easygoing in LaBelle that “the clock did not bother to keep time.”

Perhaps God was being appeased, and perhaps it even helped when the old bell was removed from the clock tower and donated to the new First Baptist Church. In fact, that may have been the turning point, for after the bell was hung in the church steeple, lightning never again struck the clock tower.

There is nothing like being sure, though, and folks in LaBelle had grown cautious over the years. Besides, no one really wanted to be the first to test the wrath of God. As years passed it was finally decided that new works would be installed in the clock tower as well as new hands on the four faces.

Newcomers watched curiously, and old-timers literally held their breath as the switch was thrown and the gears began turning on the courthouse clock on Saturday, February 22, 1975, at 3 p.m. Time had started again in LaBelle. (Reprinted from Gulf Shore Life, February 1984)

Temperatures are rising

Heat and humidity is coming back to field as daytime temperatures are starting their upward climb to hot. As the heat index rises, please remind your supervisors to monitor all workers, making sure that they have access to adequate drinking water. They should remind and encourage the workforce to drink plenty! The average worker in a hot environment needs at least 16 ounces of fluid each hour they are working.

Heat related illness - is a very preventable illness – Heat stress hits quickly and without quick intervention, can have deadly consequences.

The most serious forms of heat illness include heat cramps, heat exhaustion and heat stroke.

As many as 600 people die of heat-related causes a year across the United States.

Heat stroke is a life-threatening condition.

Employers should establish a complete heat illness prevention program to prevent heat illness. This includes: provide workers with water, rest and shade; gradually increase workloads and allow more frequent breaks for new workers or workers who have been away for a week or more to build a tolerance for working in the heat (acclimatization); modify work schedules as necessary; plan for emergencies and train workers about the symptoms of heat-related illnesses and their prevention; and monitor workers for signs of illness.

For more information on preventing heat related illness, go to <https://www.osha.gov/SLTC/heatillness/index.html>

Up Coming Meetings

May 5, 2016

Spring Vegetable Field Day

9:00 AM - Noon

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

RSVP - Jennifer Derleth at jderleth@ufl.edu or 239-658-3400

May 6, 2016

2015-16 EAA Lettuce Growers Wrap Up Meeting

12:30 pm - 3:00 pm

UF/IFAS EREC Conference Room
3200 E Palm Beach Rd
Belle Glade, FL 33430)

RSVP - eescott@pbcgov.org.

May 11, 2016

Corn and Bean Field Day

10:00 AM

New approaches to corn silk fly management.
Bean variety trial for Bean Red Node (BRN) resistance, observe symptoms and discuss scouting techniques.

UF/IFAS EREC Conference Room
3200 E Palm Beach Rd
Belle Glade, FL 33430)

May 19, 2016

Spanish Language (CORE) Pesticide License Exam Prep 9:00 AM

May 20, 2016

**Spanish Language (Private Applicator Agriculture)
Pesticide License Exam Prep**

UF/IFAS Hendry County Extension Office
1085 Pratt Boulevard
LaBelle, Florida

Cost is \$10 per class

RSVP to Debra at dcabrera@ufl.edu or 863-674-4092

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>

Tomato MD phone app from the American Phytopathological Society at <http://www.apsnet.org/apsstore/shopapspress/Pages/apps.aspx>

Quotable Quotes

There is no Wi-Fi in the forest but I promise you will find a better connection. – Anon

Life is 10% about what happens to you and 90% about how you react. – Charles Swindoll

It is never the wrong time to do the right thing. – Anon

The best preparation for tomorrow is to do today's work superbly well. – William Osler

To thine own self be true, and it must follow, as the night the day, thou canst not then be false to any man." - William Shakespeare

If you allow people to make more withdrawals than deposits in your life, you will be out of balance and in the negative! Know when to close the account. – Christie Williams

Nothing in the world can take the place of persistence. Talent will not; nothing is more common than unsuccessful men with talent. Genius will not; unrewarded genius is almost a proverb. Education will not; the world is full of educated derelicts. Persistence and determination alone are omnipotent. -- Calvin Coolidge

On the Lighter Side

Attitude

Faced with a continuing drought, villagers decided to pray for rain. On prayer day, as the people gathered, only one person showed up with an umbrella--that's "FAITH."

When a baby is thrown up into the air by a parent, it laughs, because it knows it will be caught. That's "TRUST".

Every night when we go to bed, with no assurance of being alive, the next morning, but we still set the alarm to awaken us. That's "HOPE."

We continue to make plans for tomorrow with zero knowledge of what lies ahead. That's "CONFIDENCE."

We hear about and see all the world wide havoc and suffering, but we still pick a mate and bring children into the world. That's "LOVE."

As I write this, I'm wearing a shirt that says, "I am not 63 years old-- I am a 17, with 46 years of experience. That's "ATTITUDE."

How old is Grandpa?

One evening a grandson was talking to his grandfather about current events. The grandson asked his grandfather what he thought about the shootings at schools, the computer age, and just things in general..

The Grandfather replied, "Well, let me think a minute, I was born before:

- television
- penicillin
- polio shots
- frozen foods
- Xerox
- contact lenses
- Frisbees and
- the pill

There were no:

- credit cards
- laser beams or
- ball-point pens

Hardly anyone had:

- pantyhose
- air conditioners
- dishwashers
- clothes dryers and the clothes were hung out to dry in the fresh air and

Space travel was only in Flash Gordon books.

Your Grandmother and I got married first, and then lived together. Every family had a father and a mother. Until I was 25, I called every woman older than me, "Ma'am". And after I turned 25, I still called policemen and every man with a title, "Sir."

We were before gay-rights, computer-dating, dual careers, daycare centers, and group therapy. Our lives were governed by the Bible, good judgment, and common sense. We were taught to know the difference between right and wrong and to stand up and take responsibility for our actions.

Serving your country was a privilege; living in this country was a bigger privilege... We thought fast food was eating half a biscuit while running to catch the school bus. Having a meaningful relationship meant getting along with your cousins. Draft dodgers were those who closed front doors as the evening breeze started. Time-sharing meant time the family spent together in the evenings and weekends-not purchasing condominiums.

We never heard of FM radios, tape decks, CDs, electric typewriters, yogurt, or guys wearing earrings. We listened to Big Bands, Jack Benny, and the President's speeches on our radios. And I don't ever remember any kid blowing his brains out listening to Tommy Dorsey. If you saw anything with 'Made in Japan ' on it, it was junk.

The term 'making out' referred to how you did on your school exam.... Pizza Hut, McDonald's, and instant coffee were unheard of. We had 5 & 10-cent stores where you could actually buy things for 5 and 10 cents. Ice-cream cones, phone calls, rides on a streetcar, and a Pepsi were all a nickel. And if you didn't want to splurge, you could spend your nickel on enough stamps to mail 1 letter and 2 postcards. You could buy a new Ford Coupe for \$600, but who could afford one? Too bad, because gas was 11 cents a gallon.

In my day:

- "grass" was mowed,
- "coke" was a cold drink,
- "pot" was something your mother cooked in and
- "rock music" was your grandmother's lullaby.
- "Aids" were helpers in the Principal's office,
- "chip" meant a piece of wood,
- "hardware" was found in a hardware store and
- "software" wasn't even a word.

And we were the last generation to actually believe that a lady needed a husband to have a baby. No wonder people call us "old and confused" and say there is a generation gap, or from the archives.

How old do you think this man is? Pretty scary if you think about it and pretty sad at the same time.

This man would be only 70 years old today.

Gives you something to think about... Pass this on to the old ones, the young ones wouldn't believe it.

Donkeys

Donkeys kill more people annually than plane crashes and shark attacks, so watch your Ass.

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.

Contributors include: Joel Allingham/AgriCare, Inc, Bruce Corbitt/West Coast Tomato Growers, Gordon DeCou/Agri Tech Services of Bradenton, Dr Nick Dufault/ UF/IFAS, Carrie Harmon/UF/IFAS Plant Disease Clinic, Fred Heald/The Andersons, Sarah Hornsby/AgCropCon, , Bruce Johnson/General Crop Management, Barry Kostyk/SWFREC, Leon Lucas/Glades Crop Care, Chris Miller/Palm Beach County Extension, Gene McAvoy/Hendry County Extension, Alice McGhee/Thomas Produce, Dr.Gregg Nuessly/EREC Chuck Obern/C&B Farm, Dr. Monica Ozores-Hampton/SWFREC, Dr. Rick Raid/ EREC, Dr Pam Roberts/SWFREC, Dr. Nancy Roe/Farming Systems Research, Wes Roan/6 L's, Dr. Dak Seal/ TREC, Kevin Seitzinger/Gargiulo, Ken Shuler/Stephen's Produce, Crystal Snodgrass/Manatee County Extension, Dr. Phil Stansly/SWFREC, Dr. Josh Temple, DuPont Crop Protection, Dr Gary Vallad/GCREC , Mark Verbeck/GulfCoast Ag, Dr. Qingren Wang/Miami-Dade County Extension, Alicia Whidden/Hillsborough County Extension, Dr Henry Yonce/KAC Ag Research and Dr. Shouan Zhang/TREC.

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.

Gene McAVOY

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