



UNIVERSITY OF
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E X T E N S I O N

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SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE

April 24, 2014

Weather the past few weeks has been dominated by cool nights and warm days with daytime temperatures beginning to reach into mid to upper 80's and nights still lingering in the 50's and 60's.

Cold fronts have continued to bring scattered showers every week to ten days with all sites reporting from 1.5 to over 4 inches of rain since late March. Showers have kept diseases active this spring.

Watermelon harvest is increasing around South Florida and volumes are beginning to pick-up. Crops coming to market include beets, blueberries, boniato, cabbage, cantaloupe, collards, cucumbers, eggplant, green beans, herbs, lettuce, peppers, squash, sweet corn, watermelons and specialty items.

FAWN Weather Summary

Date	Air Temp °F		Rainfall (Inches)	Ave Relative Humidity (Percent)	ET (Inches/Day) (Average)
	Min	Max			
Balm					
3/26 – 4/22/14	40.98	88.83	2.24	77	0.13
Belle Glade					
3/26 – 4/22/14	49.26	92.35	1.70	81	0.14
Clewiston					
3/26 – 4/22/14	48.43	92.73	2.49	79	0.14
Ft Lauderdale					
3/26 – 4/22/14	54.25	88.99	4.21	75	0.15
Homestead					
3/26 – 4/22/14	51.37	89.24	2.36	77	0.15
Immokalee					
3/26 – 4/22/14	47.28	93.02	1.97	78	0.15
Okeechobee					
3/26 – 4/22/14	44.83	90.82	3.79	80	0.12

“Remember, when in doubt - scout.”

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Growers in North Florida and points north are trying to recover from cold wind and rains and crops are generally behind.

The National Weather Service indicates dry and seasonable conditions should prevail through the weekend with daytime temperatures several degrees above normal. High pressure across the western Atlantic will allow the southeasterly flow to increase late in the weekend and into early next week. The resultant increase in moisture combined with a more organized cold front entering the central Gulf of Mexico will result in a slight chance of isolated showers and storms on Wednesday.

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

Insects

Pepper Weevils

Around Palm Beach County, pepper weevils have reached their seasonal peak and a number of pepper fields in Palm Beach have been abandoned due to them.

In Southwest Florida, pepper weevil pepper weevils have really cranked up and seem to be everywhere right now. This has been compounded by the fact that some growers have backed off on spraying some older pepper.

In the Manatee Ruskin area, respondents indicate pepper weevil pressure is increasing in a number of fields.

Pepper weevils remain a major issue in Homestead. Actara, Vydate, the diamide insecticides (Coragen, Verimark, Exirel and others) and pyrethroids can be used in rotation to control weevils. Field sanitation is also important and abandoned fields should be disked up in a timely fashion.

Whiteflies

Around Southwest Florida, whiteflies pressure varies greatly between locations and may fluctuate within some farms from day to day. Some respondents report high numbers of whiteflies (perhaps where they have backed off spraying) while others indicate that numbers are lower than typical for this time of year.

Around Palm Beach County, whitefly coming from older fields continues to result in high whitefly pressure on nearby younger fields. Scouts report that in older eggplant and tomato in some areas of Palm Beach levels have reached somewhat uncontrollable levels. Since growers are so near to the end of coastal season, whitefly suppression is the name of the game at this point.

In the Manatee Ruskin area whitefly numbers are mostly stable but reports indicate that whitefly numbers are starting to spike in fields close to picking and growers and scouts are beginning to report finding a few pupae in older fields as well.

Around Homestead, whitefly numbers remain high along with a high incidence of TYLCV infection reported.

As crops reach completion growers should strive to disrupt the virus-whitefly cycle by creating a break between crops, especially tomato by destroying the crop quickly and thoroughly, killing whiteflies and preventing re-growth.

- a. Promptly and efficiently destroy all vegetable crops within 5 days of final harvest to decrease whitefly numbers and sources of plant begomoviruses like TYLCV.
- b. Use a contact desiccant (“burn down”) herbicide in conjunction with a heavy application of oil (not less than 3 % emulsion) and a non-ionic adjuvant to destroy crop plants and to kill whiteflies quickly.
- c. Time burn down sprays to avoid crop destruction during windy periods, especially when prevailing winds are blowing whiteflies toward adjacent plantings.
- d. Destroy crops block by block as harvest is completed rather than waiting and destroying the entire field at one time.

For more information on control see Management of Whiteflies, Whitefly-Vectored Plant Virus, and Insecticide Resistance for Vegetable Production in Southern Florida at <http://edis.ifas.ufl.edu/in695>

Thrips

Melon thrips remains as a significant problem on various vegetable crops in Miami-Dade County.

In trials conducted by Dr Dak Seal Entomologist at the UF/IFAS TREC he reported a great reduction in thrips population when various insecticides were used weekly in a program: Radiant in combination with Requiem followed by Closer + Movento, followed by Tolfenpyrad + Lannate, followed by Belay + Beleaf.

Dr Seal reports growers had a bad flower thrips (*F. bispinosa*) year in Miami-Dade County and causing scarring on beans and tomatoes in the area. As a result symptoms of the Tosspoviruses - Groundnut Ring Spot Virus (GRSV) and Tomato Chlorotic Spot Virus (TCSV) have reached high levels in many tomato fields.

Dak reports that in trials transplant tray treatment of Verimark followed by Venom, Radiant and Movento in the field significantly reduced Tosspovirus incidence when compared with other treatments applied on foliage or as a soil drench at planting. He notes that this method of using Verimark was also effective in reducing silverleaf whitefly transmitted TYLCV.

In other studies, Dak reports that GRSV like symptoms on tomato was significantly reduced by using an insecticide program consisting of Radiant, Exirel, Lannate, Agrimek, Movento and Requiem. This program was initiated two weeks after planting and continued weekly until first harvest.

Around Palm Beach, scouts report that thrips very high in some locations and note that thrips are moving from older pepper fields to adjacent younger ones. Respondents indicate that these appear to be mostly western flowers thrips and are causing damage in pepper and eggplant and etching some tomatoes as well.

In the Glades, thrips are high in beans and lettuce. Populations are high enough to cause damage (gold/translucent flecking) on romaine and there is some red node bean virus showing up as well. Dr Rick Raid, Pathologist at UF/IFAS EREC reports that on escarole and endive, and even on some lettuce, tobacco streak virus has been pretty severe due to the recent explosion in thrips populations.

Around SW Florida, thrips have been variable ranging from low to high. Around SW FL growers are mostly dealing with flower thrips (*F. bispinosa*) but there are some western flower thrips around, along with a few melons thrips (*T. palmi*) and a few other species. Overall thrips damage is mostly low and not a great concern in general (of course there are always a few exceptions). Growers are reporting some ovipositing on a small fruit in the tops of plants that will probably never be picked.

Around Manatee County, respondents indicate that thrips range from low to horrible depending on the location.

Natural enemies, particularly predators like the minute pirate bug, are important enemies of thrips. In fact, population numbers and damage caused by thrips may be increased by application of some broad-spectrum insecticides.

Foliar insecticides are frequently applied for thrips suppression, but at times it is difficult to attain effective suppression. It is usually inadvisable to apply insecticides if predators are present.

Consult UF/IFAS recommendations for currently labeled insecticides for thrips control in Florida. Growers should be sure to rotate between insecticides with different modes of action to avoid the development of resistance.

Group 5 insecticides (Radiant and Entrust) have been effective on thrips, but overuse can lead to the development of resistance.

Corn Silk Fly

Around Belle Glade, silk flies remain a constant threat to sweet corn. Numbers remain highest around the Lake. Frequent sprays have kept damage to a minimum but as high as 15% damage in some fields around Pahokee has been reported while away from the Lake damage ranges from 0 - 5%.

Corn silk fly remains a common and persistent problem on sweet corn in Homestead where almost all corn fields are infested by corn silk fly. Dak Seal reports that insecticides that reduced corn silk fly include various pyrethroids, Lannate, Lorsban and Malathion. These insecticides were used weekly to suppress silk fly populations.

Dak notes that growers are seeing a serious influx of silk fly adults from tomato, papaya, guava, banana, sorghum and other alternate host crop fields. Where possible, growers are advised to pay attention to cleaning up fruit crops near sweet corn fields.

Worms

Around South Florida, worms are starting to make a comeback but pressure is still fairly low. Loopers seem to be the most common right now but growers and scouts are also finding some fruitworms, armyworms, melonworms and pickleworms.

Around the Manatee Ruskin area, scouts are seeing more worms and report finding cabbage loopers, hornworms, beet and southern armyworms and more pinworm than normal but note they are not really numerous or causing major problems.

In Palm Beach County, worm pressure is picking up in pepper and scouts report some increased egg laying but indicate that sprays for weevils are keeping them in check.

Aphids

Around SW Florida aphids remain active and blowing around. Mosaic is starting to increase in several watermelon and squash fields.

Around the EAA, aphid pressure continues to be high but growers report sprays have kept populations low in lettuce and radish.

Leafminers

Around South Florida, leafminers are still around but are generally low on most crops.

Broad Mites

Broad mites continue to flare up in pepper and eggplant around South Florida.

Spider mites

Around Immokalee, spider mites are showing up more widely but remain mostly low.

Red and two-spotted spider mites are building in eggplant and tomato in Palm Beach County and have reached high numbers in some plantings.

Around Homestead, spider mites are active on beans and squash.

Cucumber beetles

Growers and scouts report cucumber beetles are causing some damage on watermelon.

Sweetpotato weevil

Respondents indicate that sweetpotato weevils are abundant on boniato sweetpotato around Homestead. Dr Dak Seal reports that Lannate, the pyrethroids and Closer (Sulfoxaflor) all provided significant reduction of in lab and field studies.

Diseases

Late Blight

Around southwest Florida, late blight has hurt many tomato fields but seems to have slowed a little over the past week or so with drier weather.

Respondents in the Manatee Ruskin area report that late blight hasn't been too bad with the exception of those fields where growers were either late with the application of protectant fungicides or used inadequate rates. Dr Gary Vallad reports all samples from Hillsborough county were typed as US23 and Ridomil (mefenoxam) sensitive.

Late blight remains low in most east coast locations but has reached high levels on some organic operations.

For more info, check out USAblight for more info and photos - <http://usablight.org/lateblight>

USAblight.org is a national website that was constructed to provide information on late blight. Users can find useful information on upcoming webinars, scouting videos, genotyping of the pathogen, and other information including locations of disease occurrence.

Target Spot

Target spot continues to plague tomato growers around SW Florida where growers report reduced pack outs due to fruit infections.

Around Palm Beach County, reports indicate that it has been a bad year for target spot which has taken out some organic tomato and shortened the life of a number of conventional tomato fields.

Respondents also note that target spot is also active in cucumber and is common in eggplant which is unusual.

Dr Gary Vallad, Pathologist at UF/IFAS GCREC reports that target spot has been terrible and growers have had a hard time getting the disease under control with frequent rains and foggy mornings especially in older plantings where the disease had firmly established itself. In younger plantings, timely applications of preventative fungicides is making a difference. Dr Vallad is currently assessing fungicide sensitivity of strains collected from throughout the state.

Target spot remains common on tomatoes around Homestead.

Currently, target spot is controlled primarily by applications of protectant fungicides. It should be noted that tank-mix sprays of copper fungicides and maneb do not provide acceptable levels of target spot control.

Dr Gary Vallad writes that he does not recommend using QoI fungicides (FRAC #11) for managing target spot. He notes that to date, all the strains of target spot (*Corynespora cassiicola*) he has collected or received from consultants are resistant to QoI fungicides (FRAC #11).

In field trials, QoI (FRAC #11) fungicides have proven ineffective as well. In controlled trials, treating tomato plants with QoI fungicides in the presence of these resistant strains actually enhanced disease severity compared to plants not treated with any fungicide.

Dr. Vallad also collected several isolates of *Corynespora cassiicola* resistant to SDHI fungicides (FRAC #7), but at a much lower frequency. So, growers need to be sure to rotate any SDHI fungicide (whether single or mixed formulations) appropriately with other effective fungicides.

Gary's recommendation for target spot management, ranked by efficacy:

- 1) Scala (a.i. pyrimethanil; FRAC #9)
- 2) Inspire Super (a.i. cyprodinil + difenoconazole; FRAC #9 & #3)
- 3) Endura (a.i. boscalid; FRAC #7) or Fontelis (a.i. penthiopyrad; FRAC #7)
- 3) Revus Top (a.i. mandipropramid + difenoconazole; FRAC #40 & #3)
- 4) a.i. mancozeb; FRAC M3, various formulations
- 5) a.i. chlorothalonil; FRAC M5, various formulations

****Pristine and Priaxor are fungicide formulations containing a SDHI fungicide (FRAC #7) mixed with pyraclostrobin, a QoI fungicide.** In field trials, these formulations were still effective against target spot, in the absence of SDHI resistant strains of *C. cassiicola*. Growers should be cautious when using these products, using them early within an effective fungicide rotation.

Bacterial Spot/Speck

Bacterial spot remains active on pepper and tomato around South Florida. On tomatoes, bacteria has been persistent and places third place after blight and target spot on many growers list of concerns. Bacterial spot has defoliated some pepper fields leading to major sunscald problems.

Some bacterial speck has been reported along with the more common bacterial spot in a number of areas.

In the Manatee/Hillsborough area, bacterial spot and speck has also been quite active, as would be expected with recent rains and has given growers a hard time. Dr Gary Vallad encourages growers to adopt a weekly Actigard program in place of standard copper-mancozeb programs. Bacterial spot has been quite active in many pepper fields as well.

Around the Glades, growers report a jump in bacterial leaf spot on beans with warming temperatures and some activity on pods as a result of morning dew and recent rains.

Bacterial Blight

Respondents around Immokalee report finding some watermelon and squash leaves with bacteria lesions which was confirmed as *Pseudomonas*. With the recent drier weather and warmer afternoons, it appears to have slowed or stopped.

Dr Gary Vallad reports a few cases of a severe outbreak of a bacterial blight on cucumber that appears to be caused by a *Xanthomonas* spp. He is still performing some additional work to verify the identity of the *Xanthomonas* but suggests it is likely *X. cucurbitae*. Gary notes that outbreaks of *X. cucurbitae* have been a serious problem in other parts of the U.S., especially on pumpkin production in Illinois. It was recently identified in Georgia as well. The symptoms are quite severe, with large angular water-soaked lesions that become necrotic (turn tan) and can be easily mistaken for Downy Mildew or Angular Leaf Spot (caused by *Pseudomonas syringae* *pv. lachrymans*). However, unlike Downy Mildew, there are no signs of sporulation on the underside of the leaf and no chlorosis associated with the lesions. The blighting can be quite severe, almost resembling a spray burn or hydraulic fluid leak. Dr Vallad requests that growers with potential outbreaks contact him.

Angular Leaf Spot

Angular Leaf Spot is common in some squash and cukes in the Palm Beach area.

Downy Mildew

Around SW Florida, downy mildew is widely present in watermelon. Severity is mostly low but ranges from low to high depending on the location. Downy mildew is putting a hurt on some cucumber following recent rains and to a lesser extent in squash as well.

In Palm Beach County and other east coast locations, downy mildew is active in cucumber and squash.

Reports from Central Florida indicate that downy mildew is beginning to show up in some squash and watermelon fields in the Manatee/Hillsborough area.

Downy mildew is reportedly causing problems on cucurbits around Homestead

On cucurbits, downy mildew lesions start out as yellow angular leaf spots typically located away from leaf margins that will later turn brown to black in color. Often leaf curling and water soaking are associated with downy mildew. A white to grayish fungal growth will appear in the undersides of these lesions when the leaves are wet from heavy dews, rainfall and high humidity (> 90%).

Protectant fungicides (chlorothalonil and mancozeb) provide excellent control early in the season, but their effectiveness is limited once the disease becomes established. Downy mildew has been reported to have resistance to Ridomil Gold and FRAC group 11 (e.g., Cabrio, Quadris) fungicides. Revus, Ranman, Presidio and Previcur Flex are the recommended fungicides for DM control once it is present. These fungicides should be mixed with a protectant fungicide to provide optimal control of DM.

In addition to the cucurbits, downy mildews are having a field day on a number of other crops.

Basil Downy Mildew

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

In basil, symptoms of downy mildew initially appear as yellowing and cupping of the leaves and are typically concentrated around the mid-vein. Growers may not realize their basil is infected with downy mildew since the yellowing of the foliage is similar to a nutritional deficiency. The discolored area may cover most of the leaf surface.

On the underside of leaves, a gray, fuzzy growth may be apparent by visual inspection. Under high humidity, the chlorotic areas on the leaf turn to dark brown quickly. Sporangia, the reproductive structures of the pathogen, are easily detected under magnification and are diagnostic for this disease.

The dark sporulation of the lower leaf surface renders the product unacceptable for market and may result in severe losses. The disease symptoms can intensify in transit on harvested product and again result in unsalable product on arrival.

Disease development is favored by high humidity and leaf wetness. In field spread is through spores. This disease can become very severe if crops are not protected with a rigid fungicide program.

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 against pythium but it also 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.

Lettuce Downy Mildew

Downy mildew was active on lettuce around Belle Glade but pressure has abated in recent weeks.. Although pressure has declined recently it will likely be present for the remainder of the season, requiring protective sprays.

Downy Mildew – other crops

Downy mildew has also been active on kale. Respondents report that it has been very severe on spring mix kale, but a bit less severe on large leaf kale.

Dr. Rick Raid reports that growers are seeing downy mildew problems on sage and rosemary. He notes that this is a new one for South Florida and like basil downy mildew it looks like it is here to stay.

Powdery Mildew

On the East Coast, powdery mildew remains active in squash and is high in some pepper and absent in other places.

Around SW Florida, powdery mildew is showing up in some watermelons, reaching moderate to high levels in squash and also present in several pepper fields.

Growers in Homestead are reporting some problems with powdery mildew on beans and cucurbits.

Detecting powdery mildew on pepper can be difficult. The white powdery growth characteristic of powdery mildew diseases occurs only on the underside of leaves and will often turn brown rather than remaining white. Diffuse yellow spotting often develops on the upper surface and affected leaves tend to drop off the plant, as occurs with bacterial leaf spot.

Powdery mildew of pepper is caused by *Leveillula taurica*, which is a very different powdery mildew fungus from that causing powdery mildew on cucurbits. This powdery mildew pathogen differs from powdery mildew pathogens in other genera in that it primarily occurs inside the leaf rather than on the leaf surface.

***Leveillula taurica* infects over 1000 plant species in 74 families, including tomato and eggplant as well as pepper.**

Fungicides can provide satisfactory control and prevent economic loss if applied during the early stages of the infection. Effective control requires spraying with high pressure and high volume of water for optimum penetration of the crop canopy by the fungicide.

Organic growers may use sulfur and potassium bicarbonate for control.

Consult UF/IFAS recommendations for currently labeled fungicides for powdery mildew control in pepper and other vegetables.

Powdery mildew on cucurbits typically produces white, powder-like signs (this may be hard to see on watermelon) on the upper and lower surface of watermelon leaves. This disease will start as small, faint yellowish spots on the leaves. The spread is facilitated by dry conditions; however moisture is required for infection.

Symptoms first appear in the lower canopy on older leaves and can quickly spread throughout a field in the right environment. Yields can be reduced by 30% or more in crops not sprayed for this disease. Powdery mildew has developed resistance to fungicides in FRAC groups 1 (e.g., Topsin M), 3 (e.g., tebuconazole) and 11 (e.g., Cabrio).

Currently, the recommended fungicides for PM are Torino, Quintec, Switch and Luna Experience.

Gummy Stem Blight

Gummy stem blight is present at mostly low to moderate levels on watermelon around Southwest Florida although incidence is reported to be moderate to high in some early plantings.

Around the Manatee Hillsborough area, respondents report that gummy stem blight is rampant in some melon fields.

Gummy stem blights primary symptom is dark circular leaf spots at the margin of the leaves where moisture holds for long durations. When severely infected, complete leaf necrosis and leaf drop can be noticed. Yield losses can be as high as 30-40% if the disease is not managed using an appropriate fungicide management strategy under high moisture and warmer weather conditions. If a severe outbreak happens early in the season leading to heavy leaf drop yield losses can be higher as exposed fruits can have sun scalding.

The GSB pathogen is known be resistant to a wide range of FRAC groups. Hence a carefully planned fungicide rotation program is necessary to reduce the risk of fungicide resistance. Based on previous findings in the U.S, fungicides in FRAC groups 11 (e.g., Quadris), 1 (e.g., Topsin-M), and 7 (e.g. boscalid) have a high risk of failure if fungicide resistant GSB isolates are present in the field.

The recommended fungicides for GSB management include rotation programs with FRAC group M5 (e.g. fungicides with Chlorothalonil active) with a group 3 (e.g. tebuconazole) or group 9 + 3 (e.g. Inspire Super) or group 7 + 3 (Luna experience) fungicides.

Alternaria

Respondents around South Florida report an increase in Alternaria on tomato often in mixed infections with target spot.

Celery producers report some problems with early blight especially where fungicide coverage has been poor.

Growers around South Florida report finding Alternaria on dill and cilantro. Control may require fungicides. Strobilurins most efficacious, and should be rotated with a triazole to prevent fungicide resistance.

Alternaria remains active on cabbage around South Florida.

Phytophthora

Around central Florida, *Phytophthora capsici* has also been active in some pepper, squash and cucumbers, especially those in double-cropped situations.

Respondents in Homestead report that some growers are experiencing crown rot and fruit rot in squash caused by *Phytophthora capsici*.

Anthracnose

Growers and scouts in Palm Beach County report that anthracnose is around in old pepper and is much more common than it has been in the past few years.

Corn Leaf Blight

Around Belle Glade, Dr Rick Raid reports indicate northern corn leaf blight (NCLB) has been very light, but he suspects that will change over the next week or so due to all of the near-mature corn and rain.

Northern corn leaf blight caused by the fungus *Exserohilum turcicum* was one of the most important sweet corn diseases in southern Florida causing significant losses some years. It is still a potential threat,

occurring every spring and occasionally late fall. Resistant varieties have helped reduce the impact of northern corn leaf blight in recent years.

Initial symptoms of the disease include yellow spots that develop on the foliage. These enlarge to form tan or straw-colored dead areas about 4 to 6 inches long and one half inch wide. NCLB produces a long, elliptical lesion, while those of southern corn leaf spot tend to be oblong and much smaller than those produced by NCLB. Southern blight lesions are also lighter in color (light tan to brown), and have parallel sides rather than the tapering sides of lesions caused by *E. turcicum*.

Northern corn leaf blight, like southern corn leaf blight, moves from the lower canopy to the upper canopy. Fungal sporulation may be observed with a hand lens on foliar lesions following periods of high humidity. When severe, lesions may become so numerous that they coalesce and turn the entire leaf necrotic.

Spores are spread by rain and wind and may be carried long distances by the wind. Lesions can produce spores in as little as one week, allowing NCLB to spread much faster than many other corn leaf diseases.

Disease development is favored by heavy dews, frequent showers, high humidity and moderate temperatures.

Although some control can be reducing inoculum through the use of crop rotation and deep plowing of old crop debris, control is best achieved with resistant varieties. Resistant varieties are available and should be considered, particularly for spring plantings.

Fungicide application can effectively control *Turcicum* when applied at the right time. Fungicides should be applied when lesions first become visible on the lower leaves or when disease is reported to be in the area. Threat is highest from mid Feb into April but it may be seen during the fall as well.

Triazoles and strobilurins both provide control, with some pre-mixes giving superior control. These products should be used with a broad spectrum protectant to minimize development of fungal resistance.

Use EDBC fungicides such as mancozeb as a protectant before disease is present. Apply 4- 6 sprays on a 5 – 7 day basis. Use a surfactant/sticker as corn leavers are waxy and spray tends to run off. Rotate with a stobulurin such as Headline etc. As corn matures or disease becomes present, rotate between triazoles such as Folicur, Monsoon, Propimax etc and strobilurins or premixes of the two.

Tomato Yellow Leaf Curl

Reports from Homestead indicate that TYLCV is rather common in tomato.

Around Southwest Florida, TYLCV remains mostly low with a few hotspots where up to 100% infections are reported around but some reports indicate that incoming whiteflies appear to be highly viruliferous in some locations which may cause this situation to change rapidly.

Groundnut Ringspot Virus

GRSV is common in young pepper and tomato in Palm Beach and St. Lucie counties. Incidence has risen to 1-2% in some Palm Beach County locations.

In Miami Dade County, Groundnut Ring Spot Virus (GRSV) and Tomato Chlorotic Spot Virus (TCSV) have reached high levels in many tomato fields.

Growers should monitor thrips populations and rouge infected plants as they are detected.

Cucurbit Crumple Leaf Virus

Watermelon growers around South Florida are reporting low levels of cucurbit crumple leaf virus.

Symptoms in watermelon include yellowing and crumpling of the leaves. Unlike squash, which is severely damaged, watermelon plants seem to recover from infection.

News You Can Use

Minimizing Honey Bee Exposure to Pesticides

J. D. Ellis, J. Klopchin, E. Buss, F. M. Fishel, W. H. Kern, C. Mannion, E. McAvoy, L. S. Osborne, M. Rogers, M. Sanford, H. Smith, P. Stansly, L. Stelinski, and S. Webb

Introduction

Growers and pesticide applicators have a number of alternatives when faced with a pest problem: do nothing or apply some type of cultural, chemical, biological, or physical method to mitigate the damage. The action to be taken should be chosen after weighing the risks and benefits relative to other actions. There are many situations where pest control is necessary and chemical controls must be used. Certain chemistries are known to have negative and long-term impacts on bees, other pollinators, and beneficial arthropods. Others have minimal impacts. The pollinator-protection language that is required to be on pesticide labels will outline how best to minimize these impacts. The United States Environmental Protection Agency (EPA) bases the labels they approve for pesticide products on a risk-benefit analysis. It is important to work within the system established so that pesticide applicators can have the appropriate tools to help manage pests while safeguarding pollinators, the environment, and humans. The bottom line is that the label is the law—it must be followed.

Pollinator Importance

The western honey bee (*Apis mellifera*, Figure 1) is conceivably the most important pollinator in Florida and American agricultural landscapes. The honey bee is credited with approximately 85% of the pollinating activity necessary to supply about one-quarter to one-third of the nation's food supply. Over 50 major crops in the United States and at least 13 in Florida either depend on honey bees for pollination or produce more abundantly when honey bees are plentiful. Rental of honey bee colonies for pollination purposes is a highly demanded service and a viable component of commercial beekeeping and agriculture. Bee colonies are moved extensively across the country for use in multiple crops every year. There are also over 3,000 registered beekeepers in Florida, managing a total of more than 400,000 honey bee colonies and producing between 10–20 million pounds of honey annually.

Pesticide Use in Florida Agriculture

Agriculture in Florida is a multi-billion dollar industry, occupying over nine million acres of the state's total land. Much of the United States depends on Florida for its winter supply of produce. However, Florida's favorable environment also supports a multitude of crop pests, and their management is a year-round component in agricultural production. The pests include various insects, mites, fungi, weeds, and other undesirable organisms. Collectively, these pests can cause severe damage, and some also spread diseases that can result in significant crop and financial losses. While integrated pest management (IPM)—a combination of chemical, physical, cultural, and biological pest control—has been systematically implemented in many of Florida's major cropping systems, Florida farmers must continue to rely heavily upon crop protection materials for high-yielding, cost-effective crop production.

For more information on how to protect pollinators while protecting crops, check out the new UF/IFAS publication at: <http://edis.ifas.ufl.edu/in1027>

MARCH 2014 WEATHER SUMMARY - Typically Mild and Dry

April 4, 2014: It was a rather typical March across South Florida, with temperatures averaging near to slightly above normal and rainfall averaging near to slightly below normal. Much of the month's weather was dominated by dry and warm days, with a few cold frontal passages providing brief periods of rain. The most notable rainfall episodes occurred on the 5th, 6th, 18th, 24th, 25th and 29th. The first rain episode of the 5th and 6th produced isolated, torrential rainfall across parts of northern Palm Beach County. The Jupiter and Tequesta areas recorded between 4 and 6 inches of rain on the afternoon and evening of the 5th, resulting in street flooding. This was followed by a squall line which moved across the peninsula during the late morning and afternoon of the 6th and produced wind gusts of 40 to as much as 65 mph. This resulted in downed trees and power lines across parts of south Florida.

Another line of strong showers and thunderstorms affected south Florida on the early morning of the 18th, with wind gusts of 40-45 mph. Miami (1.49 inches) and Naples (0.30 inches) set daily rainfall records on the 25th in association with a cold front moving through the area. Finally on the 29th, strong storms once again moved west to east across south Florida, with strongest winds of 40-50 mph observed across Collier, Broward and Palm Beach counties. On this day Naples set another daily rainfall record with a total of 0.53 inches.

Rainfall totals for the month of March were in the 3 to 4 inch range across Glades and Hendry counties, The Gulf coast of south Florida recorded 2 to 3 inches, with 1 to 3 inches across most of the eastern half of south Florida. The only exception to the east coast rainfall was in northern Palm Beach County where the heavy rains of early March boosted monthly totals into the 6 to 8 inch range.

Temperatures

Despite the passage of a few cold fronts, March ended up slightly warmer than normal across south Florida. The first 90-degree temperatures of the year in southeast Florida were recorded on the 22nd and 23rd. Miami tied three daily record high temperature records on the 12th (87 degrees), 17th (88 degrees) and 23rd (90 degrees). Fort Lauderdale tied its daily record of 90 degrees on the 23rd.

Here are average temperatures and departure from normal for the four main climate sites:

Location (beginning of period of historical record)	March 2014 Avg Temp	Departure from Normal (F)
Miami (1895)	73.7	+1.1
Fort Lauderdale (1912)	73.5	+0.6
West Palm Beach (1888)	71.1	+0.6
Naples (1942)	69.6	- 0.4

Below are other noteworthy individual statistics for the four main climate sites:

Miami International Airport recorded an average March temperature of 73.7 degrees Fahrenheit. This is 1.1 degrees above the 30-year normal for March. The average high temperature was 82F, and average low temperature was 66F. The warmest reading of the month was 90 degrees on the 23rd. The coolest reading was 57 degrees on the 8th and 26th.

Fort Lauderdale/Hollywood International Airport recorded an average March temperature of 73.5 degrees Fahrenheit. This is 0.6 degrees above the 30-year normal for March. The average high temperature was 81F,

and average low temperature was 66F. The warmest reading of the month was 90 degrees on the 23rd and the coolest was 56 degrees on the 26th.

Palm Beach International Airport recorded an average March temperature of 71.1 degrees Fahrenheit. This is 0.6 degrees above the 30-year normal for March. The average high temperature was 80F, and average low temperature was 62F. The warmest reading of the month was 89 degrees on the 23rd and the coolest was 51 degrees on the 8th.

Naples Municipal Airport had an average March temperature of 69.6 degrees Fahrenheit. This is 0.4 degrees below the 30-year normal for March. The average high temperature was 80F, and average low temperature was 60F. The warmest reading of the month was 85 degrees on the 28th and the coolest was 50 degrees on the 14th.

Outlook for April-June

The outlook by the NOAA Climate Prediction Center calls for the likelihood of warmer than normal temperatures continuing through June, along with equal chances of above, below or near normal precipitation (Figure 2). Frontal passages are still common in south Florida in the month of April, therefore we can still expect periods of both warm and cool temperatures. The frequency of fronts moving through south Florida decreases substantially in May as we head towards the summer rainy season.

The median start date of the rainy season is around May 20, which means that April and part of May can still be quite dry with extended periods of little to no rainfall.

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

See entire report at <http://www.srh.noaa.gov/images/mfl/news/Mar2014Summary.pdf>

EPA Proposes Changes to WPS

EPA Purpose Statement: The EPA proposes to revise the existing Worker Protection Standard (WPS) at 40 CFR part 170 to reduce the incidence of occupational pesticide exposure and related illness among agricultural workers (workers) and pesticide handlers (handlers) covered by the rule. This regulation, in combination with other components of EPA's pesticide regulatory program, is intended to prevent unreasonable adverse effects of pesticides among pesticide applicators, workers, handlers, the general public, and vulnerable groups, such as minority and low-income populations.

Proposed changes include:

- Increased frequency of mandatory trainings (from once every five years to annually).
- Expanded mandatory posting of no-entry signs for the most hazardous pesticides.
- First time-ever minimum age requirement: Children under 16 will be prohibited from handling pesticides, with an exemption for family farms.
- No-entry buffer areas surrounding pesticide-treated fields for protecting workers and others.
- Measures to improve the ability to enforce compliance.
- Respirator use must be consistent with the OSHA standards.
- Make available to farm workers or their advocates (including medical personnel) information specific to the pesticide application, including the pesticide label and Safety Data Sheets.

Environmental Protection Agency (EPA) Proposed Revision Information:

Please note that the public is strongly encouraged to submit their comments to the docket via Regulations.gov.

For more information about EPA's WPS proposals go to
<http://www.epa.gov/oppfead1/safety/workers/proposed/index.html>

Outline:

- **Instructions to Submit Comments: page 2**
- General Information, Executive Summary: pages 2-6
- Background: pages 6-27
- Statutory Authority: pages 27-34
- Overview and Sources of Information: pages 34-56
- **Overview of Proposed Revisions: pages 56-248**
- Implementation, References, Review Requirements: pages 248-281
- Proposed Regulatory Language for 40 CFR Part 170: pages 282-345

Help Still Needed to Push SWFREC Funding

The research center, located in Immokalee, is in desperate need of revitalization. \$1.2 million has been requested for much-needed staff and additional operating funds.

Find out how you can help: <http://tinyurl.com/pzoac72>

Up Coming Meetings

April 28, 2014 **Vegetable Water/Nutrient Management Workshop** **1:00 - 4:00 PM**

UF/IFAS Gulfcoast Research and Education Center
Wimauma, Florida

Please RSVP to crys21@ufl.edu or (941)722-4524

April 30, 2014 **Spring Vegetable Field Day** **9:00 AM to 2:00 PM**

UF/IFAS Southwest Florida Research and Education Center
2685 SR 29 N
Immokalee, Florida 34142

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

May 1, 2014 **Growers Fumigation Meeting** **9:00 AM**

UF/IFAS Gulfcoast Research and Education Center
Wimauma, Florida

Please RSVP to crys21@ufl.edu or (941)722-4524

The purpose of this meeting is to discuss available fumigation products, field research studies, the next round of fumigant re-registration and to review internet based training programs used to acquire product certification

training. Please keep in mind that this is not a certification training and no tests will be administered. Lunch will be provided courtesy of Jerry Nance, Dow AgroSciences and Mike Herrington, AMVAC.

Websites

Watermelon Spray Guide for 2014 - Focused on gummy stem blight, powdery mildew, downy mildew and bacterial fruit blotch. Go to <http://nfrec.ifas.ufl.edu/paret/u-scout/Tutor.html>

Color Photos of Mineral Deficiencies in Plants - <http://customers.hbci.com/~wenonah/min-def/list.htm>

Quotable Quotes

When people learn no tools of judgment and merely follow their hopes, the seeds of manipulation are sown. – Stephen Jay Gould

It is easier to fool people than to convince them they have been fooled. - Mark Twain

It is not weapons of mass destruction or standing armies that are most dangerous to world peace. It is misinformation, lies and half-truths of authorities that pit us against each other, creating ever more incentive to propagate nonsense.

“It is shocking—not to mention short-sighted and potentially dangerous—how little money is spent on agricultural research.” – Bill Gates

Concord Hymn - Edward Waldo Emerson

By the rude bridge that arched the flood,
Their flag to April's breeze unfurled,
Here once the embattled farmers stood,
And fired the shot heard round the world.

The foe long since in silence slept;
Alike the conqueror silent sleeps;
And Time the ruined bridge has swept
Down the dark stream which seaward creeps.

On this green bank, by this soft stream,
We set to-day a votive stone;
That memory may their deed redeem,
When, like our sires, our sons are gone.

Spirit, that made those spirits dare,
To die, and leave their children free,
Bid Time and Nature gently spare

On the Lighter Side

Snappy Comebacks

In an interview, General Norman Schwarzkopf was asked if he thought there was room for forgiveness toward the people who have harbored and abetted the terrorists who perpetrated the 9/11 attacks on America.

His answer was classic Schwarzkopf.

The General said, "I believe that forgiving them is God's function... OUR job is to arrange the meeting."

Dana Perino (FOX News) describing an interview she had with a Navy SEAL. After discussing all the countries that he had been sent to, she asked if they had to learn several languages.

"Oh, no ma'am. We don't go there to talk."

The guys asked me to name an actress I would like to be stuck in an elevator with.

I told them the one who knows how to fix elevators.

Words from a Grandfather

1. Each one of you is a wonderful gift of God both to your family and to all the world. Remember it always, especially when the cold winds of doubt and discouragement fall upon your life.
2. Be not afraid . . . of anyone or of anything when it comes to living your life most fully. Pursue your hopes and your dreams no matter how difficult or "different" they may seem to others. Far too many people don't do what they want or should do because of what they imagine others may think or say. Remember, if they don't bring you chicken soup when you're sick or stand by you when you're in trouble, they don't matter. Avoid those sour-souled pessimists who listen to your dreams then say, "Yeah, but what if . . ." The heck with "what if. . ." Do it! The worst thing in life is to look back and say: "I would have; I could have; I should have." Take risks, make mistakes.
3. Everyone in the world is just an ordinary person. Some people may wear fancy hats or have big titles or (temporarily) have power and want you to think they are above the rest. Don't believe them. They have the same doubts, fears, and hopes; they eat, drink, sleep, and fart like everyone else. Question authority always but be wise and careful about the way you do it.
4. Make a Life List of all those things you want to do: travel to places; learn a skill; master a language; meet someone special. Make it long and do some things from it every year. Don't say "I'll do it tomorrow" (or next month or next year). That is the surest way to fail to do something. There is no tomorrow, and there is no "right" time to begin something except now.
5. Practice the Irish proverb: *Moi an olge agus tiocfaidh si* "Praise the child and she will flourish."
6. Be kind and go out of your way to help people -- especially the weak, the fearful, and children. Everyone is carrying a special sorrow, and they need our compassion.
7. Don't join the military or any organization that trains you to kill. War is evil. All wars are started by old men who force or fool young men to hate and to kill each other. The old men survive, and, just as they started the war with pen and paper, they end it the same way. So many good and innocent people die. If wars are so good and noble, why aren't those leaders who start wars right up there fighting?
8. Read books, as many as you can. They are a wonderful source of delight, wisdom, and inspiration. They need no batteries or connections, and they can go anywhere.
9. Be truthful.

10. Travel: always but especially when you are young. Don't wait until you have "enough" money or until everything is "just right." That never happens. Get your passport today.
11. Pick your job or profession because you love to do it. Sure, there will be some things hard about it, but a job must be a joy. Beware of taking a job for money alone -- it will cripple your soul.
12. Don't yell. It never works, and it hurts both yourself and others. Every time I have yelled, I have failed.
13. Always keep promises to children. Don't say "we'll see" when you mean "no." Children expect the truth; give it to them with love and kindness.
14. Never tell anyone you love them when you don't.
15. Live in harmony with Nature: go into the outdoors, woods, mountains, sea, desert. It's important for your soul.
16. Visit Ireland. It's where the soul of our family was born -- especially the West: Roscommon, Clare, and Kerry.
17. Hug people you love. Tell them how much they mean to you now; don't wait until it's too late.
18. Be grateful. There is an Irish saying: "This is a day in our lives, and it will not come again." Live every day with this in mind.

Written by James Flanagan to his grandchildren on his 72 birthday.

http://sftimes.co/?id=261&src=share_fb_new_261



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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