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SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE

February 4, 2014

January started out warm but mid-month a series of strong cold fronts swept through south Florida from the 15th through the 22nd. Low temperatures on the mornings of the 17th and 19th dropped temperatures to at or below the freezing mark over much of the interior of the peninsula.

Coldest temperature readings were as low as 24 in an isolated spot near Golden Gate Estates in Collier County and 26 in Palmdale. Frost was observed at many locations away from the metro areas and minor impacts to crops in many areas with tops of peppers and tomatoes frozen in some places. Elsewhere growers reported damage to corn and beans with loss of over 700 acres reported on normally warmer ground close to the Lake around Belle Glade. In Manatee County growers reportedly had to replant some pepper which was frozen.

FAWN Weather Summary

Date	**Air Temp °F**		**Rainfall**	**Ave Relative Humidity**	**ET (Inches/Day)**
	Min	**Max**	**(Inches)**	**(Percent)**	**(Average)**
Balm					
1/14/14 – 2/4/14	30.42	85.26	1.06	80	0.06
Belle Glade					
1/14/14 – 2/4/14	29.51	85.35	3.03	83	0.06
Clewiston					
1/14/14 – 2/4/14	31.26	86.27	1.84	84	0.07
Ft Lauderdale					
1/14/14 – 2/4/14	40.95	82.69	2.32	77	0.07
Fort Pierce					
1/14/14 – 2/4/14	NA	NA	NA	NA – station inactive	NA
Homestead					
1/14/14 – 2/4/14	32.00	83.8	2.29	82	0.07
Immokalee					
1/14/14 – 2/4/14	28.51	89.26	2.85	88	0.07

“Remember, when in doubt - scout.”

In addition to the cold, lashing winds associated with the fronts damaged some crops as well.

The end of January ushered in warmer weather and increased rainfall associated with the frontal systems that stalled over or near the area. All South Florida FAWN Stations reported from 1 to 3 inches of rain through the latter half of January, wetter weather along with freeze and wind damaged plants increased disease pressure in many areas.

Despite the cold spell in mid-January, Fort Myers recorded hottest Feb. 4 in 17 years and Naples tied the 1957 record high for Feb 4th.

Crop damage and cold weather pushed prices higher for a number of commodities. Growers in the Manatee Ruskin area are planting spring crops over the next few weeks.

Crops coming to market include celery, collards, cucumbers, eggplant, escarole, herbs, lettuce, kale, peppers, radishes, snap beans, squash, strawberries, tomatoes, watermelons and a variety of specialty items.

The National Weather Service indicates a cold front located off to our north approached the region on Wednesday bringing another chance of showers to the area out ahead of the front as southerly flow increases the moisture across the area. There could also be a slight chance of thunderstorms as the atmosphere will have some instability. Warm temps will continue into Wednesday as well.

The cold front is expected to stall out across the region on Thursday and the latest model guidance shows the front slowly trying to lift back off to the north on Friday resulting in a chance of showers on both days as there will be enough moisture in place and the front will still remain in close proximity. Temperatures will remain on the warm side through the first half of the weekend.

Both the GFS and the ECMWF model runs show a stronger front moving across south Florida later this weekend which will bring a much cooler air mass to the region for early next week.

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

Insects

Whiteflies

Around Southwest Florida, respondents report that whitefly pressure has increased over the past couple of weeks in most places and report that some of the young spring plants seem to be getting swarmed a few days after transplanting. The rainfall last week seems to have helped slow them down in some places but pressure overall has been steady and increasing.

Around Palm Beach County, whitefly pressure is mostly moderate. Some growers report difficulty in controlling whiteflies on some older eggplant. There are a few reports hotspots where growers have not cleaned up resulting in huge numbers of whitefly blowing onto neighboring farms.

Spring planting is underway in the Manatee Ruskin area and whitefly numbers are reported to be low in most places.

Around Homestead, respondents indicate that growers are still seeing high whitefly activity along with resulting virus spread.

Insecticidal Control Practices for Whiteflies.

1. Delay resistance to neonicotinoid and other insecticides by using a proper whitefly insecticide program. Follow the label!

a. Use neonicotinoids in the field only during the first six weeks of the crop, thus leaving a neonicotinoid-free period at the end of the crop.

b. As control of whitefly nymphs diminishes following soil drenches of the neonicotinoid insecticide or after more than six weeks following transplanting, use rotations of insecticides of other chemical classes.

c. Use selective rather than broad-spectrum control products where possible to conserve natural enemies and enhance biological control.
2. Soil applications of neonicotinoid insecticides for whitefly control.

a. For best control, use a neonicotinoid as a soil drench at transplanting, preferably in the transplant water.

b. Soil applications of neonicotinoids through the drip irrigation system are inefficient and not recommended.

c. Do not use split applications of soil drenches of neonicotinoid insecticides (i.e. do not apply at transplanting and then again later).

3. Foliar applications of neonicotinoid insecticides for whitefly control.

a. Foliar applications, if used instead of or in addition to soil drenches at transplanting, should be restricted to the first 6 weeks after transplanting. Do not exceed the maximum active ingredient per season according to the label.

b. Follow scouting recommendations when using a foliar neonicotinoid insecticide program. Rotate to non-neonicotinoid insecticide classes after the first 6 weeks and do not use any neonicotinoid class insecticides for the remaining cropping period.

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

Leafminers

On the East Coast, growers and scouts report that cooler temps in January resulted in a decline in leafminer pressure.

Around Immokalee, leafminer pressure has been sporadic with some respondents noting some increase in pressure and others reporting low numbers over the past few days.

Reports indicate leafminer numbers are low around the Manatee/Ruskin area with only a few showing up in sticky traps.

Respondents in Homestead report that leafminer pressure remains high.

Cyromazine (Trigard) alternated with abamectin (Agrimek) are effective against leafminer in tomato. Both of these products have limited crop registrations and must not be used on unregistered crops. Dow products Spintor (Spinosad) and Reliant (Spintoram) have also given good results and are labeled on a wide

range of crops. Some other materials that may be used to conserve beneficials include azadirachtin (Neemix) and insecticidal oils. Both products are approved for use by organic growers as is Conserve (spinosad).

The newest addition to the grower's arsenal of control comes in the diamide insecticides (Coragen, Verimark, Exirel and others) which have given excellent results.

Worms

Around SW Florida, worms have slowed some but growers and scouts are still finding some new hatches, mostly southern armyworms and a few beet armyworms.

Around the Glades, adult moth numbers are way down but worms are still present due to spray delays resulting from the cold and rain events.

On the East Coast, worm pressure is generally low but growers continue to find some fall armyworms in bell peppers.

Reports indicate that worms remain active in Homestead crops. Respondents note that fall and beet armyworm population are increasing and melonworms are common on cucurbits. Diamondback moth pressure also remains high.

Pepper Weevils

Around Southwest Florida, pepper weevils have increased in a number of older fields and good markets have lead several growers to keep pepper fields in production longer than normal. Weevil adults are also moving into younger fields.

In Palm Beach County, reports indicate weevils continue to be active and can be found in most areas from low to very high level in pepper and growers are reporting increasing activity in eggplant in some areas.

Pepper weevils remain a major problem in Homestead. Dr. Dak Seal reminds growers that Actara, Vydate, the diamide insecticides (Coragen, Verimark, Exirel and others) and pyrethroids can be used in rotation to control weevils**.** He advises growers to use yellow sticky cards around pepper fields to monitor their movement and notes that proper spray nozzles selection is important in delivering insecticides in fine mist to cover canopy of pepper foliage.

Aphids

Around the EAA, aphids of all types including green peach potato and turnip aphids are on the rise.

In eastern Palm Beach County, aphids are on the move migrating from older into younger pepper.

Around SW Florida aphid numbers are on the rise and growers and scouts report finding colonies forming in several pepper, potato, squash and watermelon fields. Growers report some problems with sooty mold in older crops where colonies are established.

Thrips

Around Homestead, melon thrips continue to remain a threat causing economic damage on eggplants and other crops.

Thrips are also very high in beans (being commonly seen on foliage) but causing very low damage to pods. Heavy thrips activity has resulted in TSWV/GRSV/TCSV being common in Miami-Dade production areas.

Around Palm Beach, scouts report that western flower thrips are mostly low but they are seeing some movement from older fields to younger plantings.

In SW Florida, thrips are starting to move around and are showing up in a few locations but so far numbers have been low.

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. Dow AgroSciences has requested that strawberry growers not use Radiant or Entrust on strawberry this year in Hillsborough County out of concern that resistant populations might be developing. Growers should contact their extension agent if they have questions regarding thrips or other pests in strawberry, and make arrangements for the species to be identified.

Broad Mites

Broad mites remain active across South Florida where host crops are present.

Around Palm Beach County, broad mites are still common in older pepper and eggplant. Scouts report that is some places broad mites are being carried into fields of young pre bloom pepper and are present on nearly every leaf.

Respondents report that broad mite activity has been persistent around Homestead.

Growers in SW Florida report that broad mites continue to flare up and cause problems in pepper and eggplant.

Spider mites

Around Immokalee, respondents indicate that spider mites are mostly low but are on the increase in some locations especially in some older fields.

Red and two-spotted spider mites are being found on eggplant and beans in Palm Beach County.

Around Homestead, spider mites are active on corn and other crops.

Reports from Plant City indicate that mite pressure continues to rise and damage is increasing

Stinkbugs

Low levels of stinkbugs and leaf-footed bugs continue to show up in pepper and tomato fields around South Florida and are causing some fruit damage in places.

Diseases

Cool foggy mornings and light rains over the past few weeks have increased disease potential, growers are advised to tighten up scouting and review their disease control program. Remember most fungicides are protectants and must be applied preventatively before infections occur for maximum benefit. In addition with many crops approaching maturity, coverage is important especially in those crops where dense canopies exist.

Late Blight

Low levels of late blight continue to show up in new fields over the past few weeks around SW Florida. Late blight was initially reported on potato in two locations from in Hendry and Lee counties. Since that time there are now multiple reports of late blight on tomato and potato from locations around SW Florida. Occurrence is spotty and incidence remains low but may not stay this way given the weather of the past few days and forecasts for the next few days.

Growers would be well advised to scout susceptible crops carefully as the NWS is calling for damp weather over the next several days which is conducive to disease development. Since the disease can spread so rapidly, growers should scout their fields thoroughly each day, especially when cool and wet conditions conducive to disease development prevails.

The disease thrives under cool and wet conditions. Temperatures between 50 and 80 F combined with moist conditions such as rain, fog, heavy dews, or relative humidity above 90 percent are conducive for disease development. Night temperatures in the mid-fifties with daytime temperatures from the mid-fifties to mid-seventies are ideal for this disease.

Late blight symptoms on leaves appear as irregularly shaped brown to purplish lesions with indefinite border lesions that can span veins. The lesions may be seen any time of day, on any stage of plant growth and on leaves of any age. Velvety, white fungal growth may appear on the lower surface of affected leaflets early in the morning before leaves dry and/or in the lower canopy.

On stems, purplish lesions may be found anywhere on the stem. Cottony, white growth of fungus on stems with lesions can often be seen early in the morning and/or in the lower canopy. Stems with lesions are brittle and break easily. Lesions are confined to epidermis and cortex. Leaf rolling and wilting is often associated with stem lesions and purpling of leaflets may occur in some varieties.

Begin a spray program with fungicides if late blight is in your area or weather conditions are suitable for late blight development. After potato harvest, kill infected foliage to minimize tuber infection.
Currently, fungicides are the most effective means of controlling late blight and will remain the primary tool until cultivars with resistance to this disease become available. Fungicides slow the rate at which the disease develops in the field by creating a protective barrier on the foliage.

Just applying a chemical, however, does not necessarily equate with effective disease control. Relative effectiveness of a product, coverage, and timing must be factored into the equation for maximum benefit.

Numerous fungicide products are registered for late blight control.

Protectants, as the name implies, protect foliage from infection by spores. Protectant chemicals must be well distributed over the leaf surface and must be applied before spores land on leaves. They are ineffective against established infections.

PROTECTIVE applications of chlorothalonil are your first line of defense for managing late blight. Timing is critical - applications must be made when conditions are conducive for disease development and before infection occurs!!!

Systemic products become distributed locally within plant tissues and protect foliage from infection by spores. They may kill some established infections and may suppress production of new spores. Even a short break in spray schedules, despite what is said regarding some of the newer fungicides, can result in a dramatic increase in blight under the conditions we have had during the past two weeks.

Consult current UF/IFAS recommendations for labeled fungicides for the control of late blight.

Fungicides for Late Blight

Product	Brand Name	FRAC Number
chlorothalonil	many brands	M5
maneb/mancozeb	many brands	M3
cyazofamid	Ranman	21
cymoxanil	Curzate	27
strobilurins*	Quadris, Cabrio, Flint	11
fluopicolide	Presidio	43
famoxadone + cymoxanil	Tanos	11 + 27
mandipropamid	Revus	40
Dimethomorph	Acrobat, Forum	40
mefenoxam**	Ridomil	4
propamocarb	Previcur Flex	28
zoaxamide + mancozeb	Gavel	22 + M3
dimethamorph +ametoctradin	Zampro	40 + 45

*** see caution from Dr Gary Vallad about efficacy of strobilurins fungicides for target spot below.**
**** resistance documented in many races**

In Florida, it has been observed that seldom does a widespread late blight epidemic occur on tomatoes in the Manatee-Ruskin area unless the disease was present in the Immokalee area and/or Dade County. Since late blight has been confirmed on both potato and tomato in Immokalee growers in other areas are advised to adhere to a preventative spray program.

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 ravage tomato fields around SW Florida. Many mature fields have been defoliated from the inside out and growers and scouts are battling target spot on foliage and fruit.

Around Palm Beach County, target spot has reached high levels in some tomato fields.

Target spot remains common on tomatoes around Homestead.

Target spot is frequently misdiagnosed as in its early stages as symptoms are difficult to recognize and can be confused with bacterial spot and early blight.

The name derives from the bull's eye appearance that is often displayed in lesions caused by the disease. Since concentric rings are not always visible and not all lesions with concentric rings are target spot, it is recommended that a laboratory diagnosis be obtained to ensure that a correct diagnosis is made.

On tomato leaves and stems, foliar symptoms of target spot consist of brown-black lesions with subtle concentric rings giving them a target-like appearance. These can sometimes be confused with early blight. With early blight, the lesions are often associated with a general chlorosis of the leaf.

On tomato fruit, lesions are more distinct. Small, brown, slightly sunken flecks are seen initially and may resemble abiotic injury such as sandblasting. As fruits mature the lesions become larger and coalesce resulting in large pitted areas. Advanced symptoms include large deeply sunken lesions, often with visible dark gray to black fungal growth in the center. A zone of wrinkled looking tissue may surround the margins of lesions on mature fruit. Placing suspect fruit in a moist environment for 24 hours will often induce the growth of dark gray mycelia providing telltale diagnostic evidence of target spot infection.

In addition to tomato, this fungus has a wide host range and may attack such diverse crops as papaya, passion-vine, pepper, cowpea, cantaloupe, squash, and snap beans as well as a number of common ornamentals.

Optimum conditions for disease development include temperatures from 68° - 82°F and long periods of free moisture.

Strategies for the management of this disease require an integrated approach for best results. Growers should rotate fields to avoid carryover on crop residue and avoid rotations among solanaceous crops. Eliminate any volunteers and weed species that can act as a host.

Start with clean, healthy transplants and maintain proper fertility.

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

On the east coast and around Immokalee, bacterial spot is increasing on pepper and tomato growers and scouts report finding new bacterial spot in a number of fields behind recent rainy weather.

Some bacterial speck has been reported on tomatoes in the Homestead area along with the more common bacterial spot.

Powdery Mildew

On the East Coast, powdery mildew is becoming more common in pepper and growers are advised to keep their eyes open for this disease.
Powdery mildew is causing problems in squash. Incidence ranges from none to high depending on location and age of the field.

Around SW Florida, growers and scouts report finding more powdery mildew in peppers than in past years. Severity has reached high levels in some older fields which are dropping leaves and growers are also starting to find it on younger fields now.

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 is also reaching high levels in a number of squash fields around SW Florida and is present in some watermelons already.

Powdery mildew has also been reported in some tomatoes around Immokalee and is present in fairly high levels in some places.

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

Powdery mildew on curcurbits 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.

Powdery mildew is also causing problems in strawberries around Plant City.

<u>Downy Mildew</u>

Around Immokalee, respondents report that downy mildew is present on squash at mostly low levels.. In Palm Beach County and other east coast locations, downy mildew is prevalent on squash.

Reports indicate that downy mildew is more severe than powdery mildew 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.

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.

D**isease development is favored by high humidity and leaf wetness.** In field spread is through spores.

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.

Sclerotinia

Around Belle Glade, sclerotinia remains a threat on leafy greens and beans.

Growers and scouts report that sclerotinia is jumping on a variety of crops across South Florida in recent weeks and is becoming more common on peppers

Phytophthora

Respondents in Palm Beach County report that phytophthora is becoming more common in pepper and in some eggplant as well.

Fusarium Crown Rot

Fusarium crown rot is showing up in a number of tomato fields around Immokalee where growers report they are seeing wilting plants about a week before first harvest. Incidence is mostly low and occurrence sporadic but is increasing in a number of places.

Gummy Stem Blight

Gummy stem blight is present at low levels on watermelon around Southwest Florida. Some infections seem to have started in transplant houses so growers should inspect plants carefully.

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.

Botrytis

Strawberry growers report they are seeing more problems with botrytis lately from the rain and fog.

Alternaria

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

Celery producers report early blight is active and pressure is high.

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 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

A few GRSV infected plants have been reported in Palm Beach and Miami Dade Counties. Growers should monitor thrips populations and rouge infected plants as they are detected.

Bean Golden Mosaic

Growers and scout report that heavy whitefly pressure is resulting a high incidence of Bean Golden Mosaic Virus around Homestead.

Black leg

Erwinia is increasing in potato and will continue to be a threat with wet fields and heat.

Post-Harvest Problems

Some pepper growers are also having problems with breakdown from Erwinia soft rot issues at the packing house especially in pepper picked wet or wetted during transported.

News You Can Use

January 2014 Weather Summary - Mixed Bag of Weather

The first month of the New Year started the same as the old year left off, with mild to warm temperatures across south Florida. Temperatures reached the lower to mid-80s during the first six days of the month, and cooler temperatures didn't reach our region until January 6th when a strong cold front moved through the area. Temperatures dropped around 30 to 35 degrees between the high temperatures on the 6th and the morning lows on the 7th, with 70s and 80s falling to 40s and 50s. Instead of the normal clear skies which typically follow cold fronts in south Florida, clouds and rain lingered behind, with a couple of cloudy, rainy and cool days leading to a major rain/flood event for portions of southeast Florida on the evening of the 9th and early morning of the 10th.

Moisture rapidly increased as the front "backed up" over south Florida. These factors combined to help produce torrential downpours and extremely high rainfall rates across eastern Palm Beach County from about 8 PM on the 9th to shortly after midnight on the 10th. Rainfall amounts of 10 to 15 inches were observed from just south of West Palm Beach to Delray Beach, with an area of 15 to 22 inches in Boynton Beach. The maximum measured rainfall amount was 22.21 inches in Boynton Beach, with about 15 inches falling in only three hours! Severe flooding resulted from these incredible rain rates, with entire neighborhoods in Boynton Beach and Delray Beach stranded by flood waters. Two people died from the flooding; one person drove her vehicle into a lake which had overflowed its banks and another person fell into a flooded ditch and drowned.

The warm pattern continued into the middle of January before the atmospheric pattern changed and led to the first of a series of strong cold fronts to sweep through south Florida from the 15th through the 22nd. Low temperatures on the mornings of the 17th and 19th dropped to at or below the freezing mark over much of the interior of the peninsula north of Alligator Alley, with 30s and 40s elsewhere. Coldest temperature readings were as low as 24 in an isolated spot near Golden Gate Estates in Collier County and 26 in Palmdale (Glades County). Frost was observed at many locations away from the metro areas and minor impacts to crops were noted. After a brief warm up, two more cold fronts moved through on the 21st and 22nd, once again lowering temperatures to the freezing mark over many interior locations on the morning of the 22nd.

A gradual warming trend took place following the cold morning of the 22nd, with temperatures returning into the 80s on the 27th and 28th. The last front of the month passed through on the 29th, but as was the case with the fronts early in the month, clouds and rain lingered even after the frontal passage, with localized rainfall amounts in the 1-3 inch range on the 29th and 30th.

January Precipitation

Most of the rainfall occurred in the early and late parts of the month, primarily associated with the frontal systems that stalled over or near the area. Most places registered near to above normal rainfall for January, which is normally one of the driest months of the year. Eastern Palm Beach County received the most rain for the month with greater than 8 inches, not to mention in excess of 20 inches in parts of Boynton Beach from the extreme rain event of January 9 and 10. West Palm Beach's 10.42 inches marks the fourth wettest January on record (records go back to 1888). The lowest monthly amounts in the 1 to 2 inch range were confined to the far southern Everglades.

January Temperatures across South Florida averaged out near to slightly below normal when taking into account the variations between warm and cold periods, with the cooler than normal readings most noticeable around the Lake Okeechobee area.

Miami International Airport recorded an average January temperature of 67.9 degrees Fahrenheit. This is 0.3 degrees below the 30-year normal for January. The average high temperature was 76F, and average low

temperature was 60F. The warmest reading of the month was a record-tying 85 degrees on the 6th. The coolest reading was 46 degrees on the 17th and 19th.

Fort Lauderdale/Hollywood International Airport recorded an average January temperature of 66.5 degrees Fahrenheit. This is 2.5 degrees below the 30-year normal for January. The average high temperature was 74F, and average low temperature was 59F. The warmest reading of the month was 83 degrees on the 2nd and 27th and the coolest was 43 degrees on the 17th and 19th.

Palm Beach International Airport recorded an average January temperature of 65.5 degrees Fahrenheit. This is 0.2 degrees below the 30-year normal for January. The average high temperature was 74F, and average low temperature was 57F. The warmest reading of the month was 86 degrees on the 2nd and the coldest was 38 degrees on the 23rd.

Naples Municipal Airport had an average January temperature of 63.9 degrees Fahrenheit. This is 0.6 degrees below the 30-year normal for January. The average high temperature was 73F, and average low temperature was 55F. The warmest reading of the month was 85 degrees on the 1st and the coldest was 38 degrees on the 19th and 23rd.

Outlook for February-April and Associated Impacts

The latest outlooks by NOAA's Climate Prediction Center (CPC) call for a slightly-enhanced likelihood of warmer and drier than normal conditions for the month of February. More confidence is placed on the warmer-than-normal outlook for February as latest computer models show most of the first half of the month being on the warm side, with the precipitation outlook somewhat more uncertain due to increasing moisture and fronts approaching the area possibly acting to periodically increase rain chances. The warm and dry outlook indicated by CPC extends through April but it is always stressed that these long-term outlooks exhibit a high degree of uncertainty.

Despite groundwater levels near normal, any extended dry period during the latter half of the dry season can quickly lead to increased fire danger, especially as we approach the peak wildfire season beginning in March. Regardless of the temperature outlook, the potential for freezing temperatures exists through February and even into early March. Finally, the rip current threat typically increases in March and April as temperatures warm up and onshore winds become more of a factor.

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.

http://www.srh.noaa.gov/images/mfl/news/January2014Summary.pdf

Freezes damage south Florida corn, beans

Doug Ohlemeier
The Packer
01/24/2014

South Florida sweet corn and green beans, like this field of corn near Belle Glade, Fla., from a past year, are recovering from late January freezes. South Florida growers are recovering from late January freezes that are increasing prices for sweet corn and green beans.

In freezes that struck Jan. 19-24, temperatures dropped to the mid-20s in Palm Beach County, the major growing region for beans and corn and hit 31 degrees in Immokalee, Fla.

South Bay, Fla.-based Hugh H. Branch Inc., lost up to 700 acres of winter corn, said Brett Bergmann, co-owner.

The freeze struck the Pahokee, Fla.-area “warm land” adjacent to Lake Okeechobee, he said.

Corn in other growing regions including Indiantown, Fla., and Homestead, Fla., the latter of which produces the bulk of Florida’s winter production, survived, Bergmann said.

“There’s not a lot of winter production (here), but there’s been a tremendous yield reduction,” he said Jan. 24. “Yields are down well below 50%-60%. We are in one of the more prolonged cold snaps we’ve had in the last few years. Usually, we have a cold snap and then it may be 80 degrees the next day, but we’ve had 10 days of cooler weather.”

Bergmann said he wasn’t sure how the damage could affect supplies but noted how corn prices have increased from the typical winter $16-18 a crate to $20-24.

In late January, the U.S. Department of Agriculture reported $24.40 for wirebound crates of 4-4 1/2 dozen yellow and bicolor with insufficient supplies reported for white.

In south Florida, the cold also damaged beans for Immokalee-based Florida Specialties Inc., said Chris Tordonato, sales manager.

“We’re not showing a lot of damage, but there are some areas where we got some damage,” he said Jan. 24. “It wasn’t a prolonged event but enough to make a difference. It will just lessen the yields which are down 30%.”

In late January, Tordonato and Bergmann said handpicked and machine-picked beans were commanding $40-45.

On Jan. 23, the USDA reported bushel cartons and crates of machine-picked round green beans from south Florida selling for $45.15-45.95.

http://www.thepacker.com/fruit-vegetable-enewsletter/packer-daily/Freezes-damage-south-Florida-corn-beans-241870681.html

Tomato Diseases on the Rise in Absence of Methyl Bromide

Well into the methyl bromide phase-out, soilborne pathogens are building up and creating more disease problems. During the 2013 Florida Ag Expo, Dr. Gary Vallad, a plant pathologist with UF/IFAS, outlined some disease challenges tomato growers are facing in the absence of methyl bromide. Showing attendees a picture of a tomato field infested with classic fusarium wilt symptoms, he said this is becoming a more frequent sight across the state.

“Back when I started with UF/IFAS in 2007, the only time I would see these yellow plants (fusarium wilt symptoms) was typically at the end of rows where too little methyl bromide went out because they turned off the fumigant too soon at the end of a row,” he said. “But starting three or four years ago, I began getting calls about these more uniformly diseased fields.”

The intensity of fusarium wilt is increasing. Vallad discussed a field from the previous spring that had 30% incidence of wilt at the first pick. By the second pick, it had grown to 80%, with some areas a complete loss.

“We have seen an expansion of the area impacted as well,” he said. “Where we used to have growers report a concentrated problem area in one field, now they are reporting it popping up in many different areas and fields.”

Another problem on the rise is fusarium crown/root rot. Vallad described the level of infestations in some tomato fields in Manatee County in fall 2013 as “shocking.” Even with the standard methyl bromide replacement in use, growers were seeing 10% to 30% incidence by the first pick with the disease growing progressively worse with each picking.

“While there are resistant varieties for both fusarium wilt and crown/root rot, they are susceptible to bacterial spot and fruit are typically smaller than the standards growers are used to,” he said.

According to Vallad, research activities include trying to identify the weaknesses in the current methyl bromide alternatives. “We are looking to develop additional strategies for managing soilborne pathogens to augment fumigation,” he said. “This might include different cultural practices, weed management strategies, and maybe modifying bed architecture.”

Growing Produce
February 1, 2014
http://www.growingproduce.com/florida-ag-expo/tomato-diseases-on-the-rise-in-absence-of-methyl-bromide/?utm_source=knowledgemarketing&utm_medium=newsletter&utm_campaign=flgenews%2002042014

Senate Passes Farm Bill

Tom Karst
The Packer
February 4, 2014

In convincing fashion, the Senate passed the 2014 farm bill Feb. 4.

The House of Representative passed the conference farm bill measure in late January, and the White House has said that President Obama will sign the legislation.

"This gives 16 million people in agriculture the farm bill they deserve," Sen. Debbie Stabenow, D-Mich., chairwoman of the Senate Agriculture Committee, said prior to the vote.

As lawmakers struggled to finish a new five-year farm bill in recent months – after expiring at the end of September, the 2008 farm bill had to be extended temporarily late last year – support for the legislation was mainly split by proposed cuts to the Supplemental Nutrition Assistance Program, aka food stamps.

In the end, the House-Senate compromise legislation cut $8 billion, (about 1%) from the food stamp program over the next ten years. That was substantially less than the 5% cuts in SNAP funding the House proposed but too much for some Democrats.

The Congressional Budget Office estimates that direct spending from farm bill programs over a 10-year period will total $956 billion, of which about $756 billion would be dedicated to nutrition programs. The budget office estimates the farm bill will lower deficits by $16.6 billion over the ten-year period.

The bill has been widely praised by produce industry leaders for funding nutrition and research priorities targeted by the specialty crop industry, though some concern has been expressed about the new conservation compliance regulations that are being phased in for specialty crop growers who sign up for federal crop insurance.

Some highlights of the farm bill:

•Technical Assistance for Specialty Crops – $9 million per year;
•Market Access Program – $200 million per year;
•Fresh Fruit and Vegetable Program – $150 million per year;
•At least five states will offer canned, frozen, and dried, produce through the fresh fruit and vegetable program with an evaluation due to Congress on Jan. 1, 2015;
•Healthy Incentives Program – $100 million program for programs to increase fresh produce purchases by SNAP participants;
•Value-added grants – Mandatory funding at $63 million;
•Specialty Crop Research Initiative – $80 million per year. From 2014-18 $25 million a year goes to fight citrus greening;
•Specialty Crop Block Grants – includes $72.5 million 2014-17 and $85 million in 2018;
•Farmers Market Promotion Program – $30 million per year; and
•Plant Pest and Disease Program – $62.5 million 2014-17 and $75 million in 2018.

For more on the story, please visit http://www.thepacker.com/fruit-vegetable-enewsletter/packer-daily/Senate-passes-farm-bill-243553121.html.

You can view the entire bill and bill summary at http://agriculture.house.gov/farmbill/

Up Coming Meetings

February 6, 2014 **Broccoli Field Day** **1:00 PM**

Thomas Produce Packinghouse
9905 Clint Moore Road
Boca Raton, Florida

There will be eight broccoli varieties grown our under local conditions for you to evaluate.

For more information contact Chris Miller at 561-233-1718 or cfmiller@ufl.edu

February 8, 2014 **Hendry County City Farm Tour** **7:00 AM – 5:00 PM**
March 8, 2014

You will then be transported with knowledgeable tour guides to various stops around Hendry Counties where you will get a close up look at some of the most efficient farmers in the world. The tour will feature a variety of interesting stops at some of Florida's most sophisticated agricultural operations.

Lunch is included and features a 16oz rib eye steak prepared by the Hendry County Cattlemen's Association..

For more information and tickets, contact Debra Cabrera at 863-674-4092 or dcabrera@ufl.edu

February 19, 2014, **Fumigation Workshop** **10:00AM – Noon**

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

Come out and observe and learn how to set up a drip tape injection of Pic-Clor 60EC at the UF/IFAS SWFREC farm in Immokalee. This will be an opportunity for you to observe the set up and drip application of Pic-Clor

60 EC. The field demonstration will be conducted by Mr. Beau Peurifoy, TriEst Ag Group.

To RSVP, contact Debra Cabrera at 863-674-4092 or dcabrera@ufl.edu

February 26, 2014 **New Technology for Commercial Vegetable and Fruit Production teleconference** **Noon – 4:50 PM**

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

This unique program is an opportunity for licensed pesticide applicators to earn up to 5 FDACS-approved CEUs in several categories for recertification credit.

To RSVP, contact Debra Cabrera at 863-674-4092 or dcabrera@ufl.edu

March 4, 2014 **Vegetable Grafting Workshop** **9:00 AM to 2:00 PM**

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

This workshop will cover the following topics and more:
• Vegetable grafting and why?
• Selecting Rootstocks for Grafting 'Heirloom' Tomatoes
• Integrated use of grafting in tomato production in Florida
• Adapting cultural practices to grafted tomatoes
• Hand-on tomato grafting demonstration

To RSVP, contact Debra Cabrera at 863-674-4092 or dcabrera@ufl.edu

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

The 2014 Florida Vegetable Production Handbook and the 2014 Southeastern Vegetable Production Handbook can both be found at http://nfrec.ifas.ufl.edu/paret/u-scout/Tutor.html

Food Safety in Leafy Greens and More - Join eOrganic in February 2014 for free webinars (Various Dates) on food safety in leafy greens, spotted wing drosophila management, anaerobic soil disinfestation and more. Register and find out more about the webinars and view the full schedule of upcoming and archived webinars online at http://www.extension.org/pages/25242

Quotable Quotes

There are three kinds of men. The one that learns by reading. The few who learn by observation. The rest of them have to pee on the electric fence for themselves. - Will Rogers

Don't let yesterday use up too much of today.

Even if you're on the right track, you'll get run over if you just sit there. - Will Rogers

On the Lighter Side

Giraffe Test

There are 4 questions. Don't miss one.

1. How do you put a giraffe into a refrigerator? Stop and think about it and decide on your answer before you scroll down.

The correct answer is: Open the refrigerator, put in the giraffe, and close the door. This question tests whether you tend to do simple things in an overly complicated way.

2. How do you put an elephant into a refrigerator?

Did you say, Open the refrigerator, put in the elephant, and close the refrigerator? Wrong.
Correct Answer: Open the refrigerator, take out the giraffe, put in the elephant and close the door. This tests your ability to think through the repercussions of your previous actions.

3. The Lion King is hosting an Animal Conference. All the animals attend ...except one. Which animal does not attend?

Correct Answer: The Elephant. The elephant is in the refrigerator. You just put him in there. This tests your memory.

Even if you did not answer the first three questions correctly, you still have one more chance to show your true abilities.

4. There is a river you must cross but it is used by crocodiles, and you do not have a boat. How do you manage it?

Correct Answer. You jump into the river and swim across. Haven't you been lis-ten-ing? All the crocodiles are attending the Animal Conference. This tests whether you learn quickly from your mistakes.

According to Anderson Consulting Worldwide, around 90% of the older folks they tested got all questions wrong, but many preschoolers got several correct answers. Anderson Consulting says this conclusively proves the theory that many older people do not have the brains of a four-year-old.

TOP MORONS OF 2013

1. AT&T fired President John Walter after nine months, saying he lacked intellectual leadership. He received a $26 million severance package. Perhaps it's not Walter who's lacking intelligence.

2. Police in Oakland, CA spent two hours attempting to subdue a gunman who had barricaded himself inside his home. After firing ten tear gas canisters, officers discovered that the man was standing beside them in the police line, shouting, 'Please come out and give yourself up.'

3. An Illinois man, pretending to have a gun, kidnapped a motorist and forced him to drive to two different automated teller machines, wherein the kidnapper proceeded to withdraw money from his own bank accounts.

4. A man walked into a Topeka, Kansas Kwik Stop and asked for all the money in the cash drawer. Apparently, the take was too small, so he tied up the store clerk and worked the counter himself for three hours until police showed up and grabbed him.

5. Police in Los Angeles had good luck with a robbery suspect who just couldn't control himself during a lineup. When detectives asked each man in the lineup to repeat the words: 'Give me all your money or I'll shoot', the man shouted, 'that's not what I said!'

6. A man spoke frantically into the phone: 'My wife is pregnant and her contractions are only two minutes apart'. 'Is this her first child?' the doctor asked. 'No!' the man shouted, 'This is her husband!'

7. In Modesto, CA, Steven Richard King was arrested for trying to hold up a Bank of America branch without a weapon. King used a thumb and a finger to simulate a gun. Unfortunately, he failed to keep his hand in his pocket. (hellooooooo)!

8. Last summer, down on Lake Isabella, located in the high desert, an hour east of Bakersfield, CA, some folks, new to boating, were having a problem. No matter how hard they tried, they couldn't get their brand new 22 foot boat, going. It was very sluggish in almost every maneuver, no matter how much power they applied. After about an hour of trying to make it go, they putted into a nearby marina, thinking someone there may be able to tell them what was wrong. A thorough topside check revealed everything in perfect working condition. The ngine ran fine, the out-drive went up and down, and the propeller was the correct size and pitch. So, one of the marina guys jumped in the water to check underneath. He came up choking on water, he was laughing so hard. Under the boat, still strapped securely in place, was the trailer....

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

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

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