



UNIVERSITY OF
FLORIDA

E X T E N S I O N

Institute of Food and Agricultural Sciences

Hendry County Extension

PO Box 68 LaBelle, Florida 33975-0068

Phone (863) 674-4092

SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE

November 23, 2015

Unsettled weather in advance of this weekend cold front brought rainy humid conditions to much of the area with many areas receiving an inch or more of precipitation. Some growers are reporting problems with rain check and cracking in areas hit hard by rain.

Temperatures in November remained unseasonably warm speeding maturity and affecting yields and quality in many crops. Heat and humidity also contributed to some disease issues. High temperatures also impacted stand establishment in some crops and is causing some premature bolting in some leafy vegetables.

FAWN Weather Summary

Date	Air Temp °F		Rainfall (Inches)	Ave Relative Humidity (Percent)	ET (Inches/Day) (Average)
	Min	Max			
Balm					
11/2 – 11/23/15	57.67	90.37	2.80	86	0.09
Belle Glade					
11/2 – 11/23/15	66.16	92.28	2.53	87	0.09
Clewiston					
11/2 – 11/23/15	66.00	92.30	2.20	84	0.09
Ft Lauderdale					
11/2 – 11/23/15	69.37	89.22	3.71	83	0.09
Homestead					
11/2 – 11/23/15	66.54	89.58	1.19	87	0.09
Immokalee					
11/2 – 11/23/15	65.82	94.37	2.41	84	0.09
Okeechobee					
11/2 – 11/23/15	61.30	91.60	3.12	75	0.08

“Remember, when in doubt - scout.”

The Institute of Food and Agricultural Sciences is an Equal Employment Opportunity – Affirmative Action Employer authorized to provide research, educational, information, and other services only to individuals and institutions that function without regard to race, color, sex, age, handicap or national origin.
COOPERATIVE EXTENSION WORK IN AGRICULTURE, FAMILY AND CONSUMER SCIENCES, SEA GRANT AND 4-H YOUTH, STATE OF FLORIDA, IFAS, UNIVERSITY OF FLORIDA, U.S. DEPARTMENT OF AGRICULTURE, AND BOARDS OF COUNTY COMMISSIONERS COOPERATING

Crops coming to market include light volumes of cantaloupe, cucumber, eggplant, green beans, herbs, pepper, squash, sweet corn, tomato, watermelon and various specialty items. Prices and quality are generally good.

The National Weather Service reports the cold front which moved in on Sunday night will bring breezy to windy north to northeast winds over South Florida today which in turn will bring in cooler drier air to the area from the north. The front will continue to move southward into the Florida Straits tonight before stalling out Tuesday into Thanksgiving Day. At the same time, high pressure will build over the eastern United States producing a tight pressure gradient over south Florida through Thanksgiving Day leading to breezy to windy northeast winds over the area.

Isolated to scattered showers will continue to develop over the Atlantic waters through Thanksgiving Day and work westward into the east coast metro areas providing a 20 to 30 percent chance of precipitation over the east coast metro areas and the Atlantic waters of south Florida through Thanksgiving Day.

Over the long term, the high will start to break down this weekend over the eastern United States which will allow for the pressure gradient to relax over south Florida this weekend letting the easterly winds to decrease.

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

Insects

Worms

Around Palm Beach and East Coast production areas, worm pressure remains high in cucurbits. A few fall armyworm are causing problems in older pepper fruit in some places. Worms are also showing up in leafy brassicas in pretty high numbers at times.

In the EAA, sweet corn growers report extreme fall armyworm pressure and continued egg-laying due to heat. Most growers have been able to keep silks "clean" with a dedicated effort. Respondents indicate that loopers are problematic in leafy vegetables and some growers have reported seeing some diamondback moth activity in brassicas.

Around the Manatee/Ruskin area, worm pressure has been (SAW, BAW, loopers, and a few fruitworms in tomatoes that are getting close to) steady but growers report they are obtaining good control if they select the proper materials and apply at recommended rates.

Around Immokalee, many growers and scout report that worm pressure just won't quit with loopers, southern and beet armyworms being found widely in a variety of crops. A few pinworm are being seen in some eggplant around Immokalee.

Scouting is extremely important in detecting worms early before they can do significant damage. The Florida Tomato Scouting Guide indicates a pre-bloom threshold of 1 larva/6plants and post-bloom threshold of 1 egg mass or larva/field.

Tomato pinworm (*Keiferia lycopersicella*) is a warm season pest that occurs throughout the tomato producing areas of Florida. The damage they inflict includes blotch mining and folding of leaves and small pin size holes in fruit.

Pinworm adults are small gray/brown moths that are active at dusk. Early stage larvae are orange and turn purplish gray as they mature.

The caterpillar feeds on leaves and creates blotch type mines, but causes most of its damage when it attacks the fruit. When abundant, the tomato pinworm may seriously damage foliage and infest nearly 100% of the fruit. When infested fruit is picked, caterpillars may be difficult to detect unless they have been feeding long enough to deposit frass at the edge of the calyx. Because the pinworm can have many generations per season, they often become more serious as the season advances.

Pinworm has been relatively absent for the past few years. Early detection is important. Pheromone traps help provide an early warning.

Pheromone-based mating disruptants, such as No Mate TPW spirals or Checkmate TPW dispensers provide a very effective means of combating pinworm. These should be applied according to label instructions with good distribution throughout field.

If using insecticides, treatment must begin when populations reach economic thresholds. The UF/IFAS Florida Tomato Scouting Guide Tomato recommends season-long action thresholds of 5 adults/trap/night to initiate the application of mating disruptants and an action threshold of 0.7 larva per plant for the initiation of control measures.

Once begun, treatments may be required until harvest. If nearby infested tomato fields are abandoned, adults can immigrate into later planted fields in large numbers. If scouting detects a significant movement, consider border treatments.

Chemical controls such as Agri Mek and Spintor have the advantage of being effective against leafminers as well as the additional benefit of being soft on beneficials. The diamides, methomyl and a variety of synthetic pyrethroids are also effective materials for the control of pinworm. Consult UF/IFAS recommendations for currently labeled insecticides for pinworm control in Florida.

Whiteflies

In the Manatee/Hillsborough area reports indicate that whitefly pressure remains spotty in tomatoes and is mostly low – moderate except in a few hotspots where scouts are finding plenty of pupae and seeing some problems with irregular ripening.

Around Southwest Florida, whitefly pressure is mostly low with some exceptions where numbers are higher.

Respondents on the East Coast report that whitefly pressure remains mostly low.

Around Homestead, whitefly numbers remain high in a variety of crops and growers indicate that whiteflies are proving to be difficult to manage.

See Management of Whiteflies, Whitefly-Vectored Plant Virus, and Insecticide Resistance for Vegetable Production in Southern Florida - <http://edis.ifas.ufl.edu/in695>

Leafminer

On the East Coast, leaf miner numbers are increasing in some fields and pressure is low – moderate depending on the location.

Reports from Homestead indicate that leafminers are increasing in a variety of vegetable crops.

Reports from Hillsborough County indicates that leafminer populations are trending upward with moderate to heavy pressure. Growers report getting good control with foliar applications of Coragen, Exirel, and Agri-Mek.

Around Southwest Florida, leafminer number are increasing and numbers are variable from low to high depending on location.

Respondents in the EAA report a slight uptick in leafminer activity in the leaf crop.

Dr Dak Seal Entomologist at UF/IFAS TREC advises that growers can use Spintor, Radiant, Coragen, Durivo, Agrimek, Trigard and some neonicotinoids such as Venom for leafminers when populations are high.

Broad Mites

Around Southwest Florida, reports indicate that broad mites are increasing in several pepper and eggplant fields.

On the East Coast, broad mites have become common and have been hitting pepper and eggplant earlier than usual.

Spotty occurrence of broad mites has also been reported in Homestead and the Ruskin area.

Pepper Weevil

Around Southwest Florida, pepper weevils are pretty well established around the area now mostly at low levels.

Pepper weevil are increasing in a number East Coast locations and are becoming common place in many pepper fields.

In the Manatee Ruskin area, weevils remain mostly low.

The pepper weevil (*Anthonomus eugeni*) is a key pest of all pepper varieties grown in Florida and other subtropical areas of the US, the Caribbean and Central America.

The adult is a small (1/6 inch) black or grey beetle with a long snout (proboscis) and elbowed antennae. Adults use the mandibles at the end of the proboscis to feed on leaf or flower buds.

The major form of damage is destruction of blossom buds and immature pods. Both adult and larval feeding causes bud drop. Adult feeding punctures appear as dark specks on the fruit, and are not very damaging. Sometimes the fruit is deformed.

Larval feeding within the mature pod is another important form of damage, causing the core to become brown, moldy and hence unmarketable. The stem of pods infested by larvae turn yellow, and the pod turns yellow or red prematurely. Fruit drop is common, and is perhaps the most obvious sign of infestation.

Chemical control is difficult because all stages but the adult are protected within the fruit, so that only the adult weevil is vulnerable to insecticides. Frequent sprays may be necessary starting in the initial stages of infestation in order to avoid unacceptable levels of damage.

Spraying needs to commence at the first sign of weevils or with flowering in fields with a history of problems. Vydate has been the standard control and has given pretty good results when applied weekly in trials at the Southwest Florida Research and Education Center. A total of 24 pts can be applied for the season.

Other products that have performed well in trials include Capture (bifenithrin), Kryocide (cryolite), Venom (dinotofuran) and Actara (thiomethoxam). The diamides such as Coragen may provide some suppression. **Unfortunately applications are limited and growers are still trying to work out the timing of applications to achieve the best results.**

Consult UF/IFAS recommendations for currently labeled insecticides for pepper weevil control in Florida vegetables.

Aphids

Around South Florida, aphids remain mostly low but some colony formation has been reported and several fields are now being treated. Green peach aphids are active in kale, mustard and other leafy brassicas.

Grower and scouts in the EAA are reporting some problems with Uroluecon aphids (daisy aphids) in leafy vegetables. These are medium-sized to rather large aphids which may be shiny red, reddish brown or blackish brown. The antennae are about as long as the body.

Corn Silk Fly

Around Belle Glade, silk fly adults are present in corn but growers have managed to keep silks clean through deliberate effort.

Dr Dak Seal reports that silk fly adults were observed in a recent survey on various fruits and wild hosts and are waiting for sweet corn. Dak notes that due to the oriental fruit fly situation, growers in the quarantine area are prohibited to harvest avocado, banana, papaya and other fruits. These fruits will serve as important breeding hosts of silk fly. Dak notes that silk fly population will increase with increasing decomposed fruits.

Dak reports Certis Bait pellets show significant reduction of CSF adults and CSF damage on corn ears. In addition, pyrethroids can be used to reduce silk fly adults.

Stink Bugs

A few stinkbugs are showing up here and there and causing some problems mostly in organic systems.

Thrips

Western flower thrips are starting to show up in pepper in fields around Palm Beach County. Numbers remain mostly low but some larvae have been reported as well.

In SW Florida, there are a few thrips around, but numbers are low and lots of pirate bugs are present and providing control in most cases.

In Miami Dade County, thrips are numerous and include common blossom thrips, melon thrips, and Florida flower thrips. Growers indicate they have problems controlling thrips with insecticides and are trying other measures including using metalized plastic mulch and adjusting timing of planting.

Around Homestead, Dak Seal reports that melon thrips numbers are surprisingly high this early in the season. He reports that he randomly collected 100 bean leaves and placed them in a plastic bag in the laboratory for five days. From these leaves, he collected 200 pupae.

Dak reports finding similar numbers of thrips from other host crops.

To avoid problems, he advises growers:

- A. Do not use insecticides unless you are sure about pest status of the thrips on your crop. In order to be sure, get your thrips identified by the nearest available thrips authority (extension agents, scouts, researchers, etc.). Some thrips can be harmless or even beneficial.
- B. Once the species is confirmed to be a harmful one, immediately plan your IPM program.
- C. Scout fields regularly to confirm the level of infestation- if population is below threshold level, use environmentally compatible products, such as Trilogy, Neemix, Requiem, and Grandevo. These products can be used alone or in combination (Trilogy + Requiem or Neemix + Grandevo).
- D. If thrips populations are showing increasing pattern, use Radiant in combination with Movento followed by Closer/Exirel. All of these above mentioned insecticides will provide suppression of thrips populations but none of them is silver bullet.

Elsewhere around South Florida thrips remain very low in most locations and appear to be mainly Florida flower thrips.

Diseases

Target Spot

Growers and scouts in the Manatee/Ruskin area report that target spot is rampant in older tomato and has taken out the bottom half of the bush in many instances. The disease is progressing rapidly with favorable humidity and some growers are reporting heavy fruit infection where they were not being vigilant with fungicidal sprays.

Around Immokalee, target spot is going crazy in several tomato fields, getting started on inner leaves right after the third string goes and then exploding at first pick.

On the East Coast, target Spot is increasing in some older tomatoes and is also present at low levels in cucumber.

Foliar symptoms of target spot caused by *Corynespora cassiicola* consist of brown black lesions with subtle concentric rings giving them a target-like appearance. Lesions can be confused with early blight. Foliar symptoms of early blight caused by *Alternaria solani* also consist of brown black lesions with conspicuous concentric rings and but are often associated with a general chlorosis (yellowing) of the leaf.

Disease development is favored by periods of high humidity and free moisture (rain or dew) and temperatures between 70 - 94°F. *Corynespora cassiicola* has a broad host range, while *Alternaria solani* is limited to specific solanaceous hosts (tomato, potato, eggplant, and nightshade).

Disease Management: Strategies for early blight and target spot are very similar, and require an integrated approach for best results.

1. Rotate tomato fields to avoid carryover on crop residue. Avoid rotations among solanaceous crops.
2. Eliminate any volunteers and weed species (especially solanaceous weeds) that can act as a reservoir.

3. Start with clean, healthy transplants preferably produced in facilities removed from tomato production.
4. Maintain proper fertility, nitrogen deficiencies favor the development of early blight.
5. Apply fungicides in a preventive manner when conditions favor disease development

Newer fungicides such as Endura, Scala, Inspire Super, Reason Tanos and Fontelis have provided growers with new tools to manage this disease. Consult UF/IFAS recommendations for currently labeled fungicides for target spot control in Florida tomatoes.

Bacterial Spot

Around Immokalee, bacterial spot has also been active in mature tomatoes. Recent warm nights with dew, fog and spotty showers has really hurt a lot of pack outs. Bacterial spot has also flared in some pepper fields following recent showers.

Respondents in the Manatee Ruskin area report bacterial spot has jumped up in some fields recently but note that overall it but remains relatively low.

On the East Coast, bacterial leaf spot is increasing and becoming more common in tomato and pepper following recent showers.

Reports from Miami Dade County indicate growers are also seeing some bacterial spot on tomato.

Choanephora blight

Choanephora blight or wet rot, caused by the fungus Choanephora sp., is typically an occasional problem on vegetables especially during the early fall in Southwest Florida.

This fall, hot humid conditions have been conducive to the development of this disease and growers around South Florida are reporting major issues in green beans, pepper and squash.

Symptoms are visible on apical growing points, flowers and fruits. Initially, water-soaked areas develop on leaves and leaf margins, leaf tips and apical growing points become blighted. Older lesions appear necrotic and dried out. Later the fungus grows rapidly downward causing dieback. The dark-gray fungal growth is apparent on some lesions. Close inspection under magnification will reveal silvery, spine-like fungal structures and dark spores.

A black soft rot can develop in fruit. Young squash fruit in particular develop a dark whiskey fungal growth on the blossom end before the fruit softens and rots

This fungus is a weak parasite; it colonizes dead or dying tissue before it actively invades living tissue. The fungus may invade the old flowers and advance into the fruits. Spores may be dispersed by insects such as bees from flower to flower.

Infection can occur with or without wounding of host tissue caused by insects or mechanical means. However, the disease may appear more frequently and with greater severity where such damage provides an entry point for the fungus.

Extended periods of rain, high humidity and high temperature favor fungal sporulation and disease development. The fungus is spread via wind and splashing water, and on clothing, tools and cultivation equipment.

There are few management techniques available, but fungicidal sprays applied for the control of other diseases will provide some control of this disease also. Good spray coverage where dense foliage occurs is important. (Some growers have indicated that they have gotten some control with Endura but this is not yet supported by trial results.)

Dense plantings can lead to poor air circulation and extended periods of leaf wetness. Well-drained production sites and the use of drip irrigation rather than overhead irrigation will help decrease relative humidity and leaf wetness within a dense plant canopy.

Early Blight

Low levels of early blight are showing up on tomatoes around South Florida

Foliar symptoms generally occur on the oldest leaves and start as small, pencil-point-size, brownish to black lesions. These leaf spots enlarge up to ½ inch (1.3 cm) in and usually have readily visible, concentric rings that look somewhat like a bull's-eye. These concentric leaf spots are distinctive enough to make early blight one of the easier tomato diseases to diagnose.

The area around the spot may become yellow, as may entire severely affected leaves. Early blight symptoms are most pronounced in the lower canopy. Under favorable conditions, significant defoliation of lower leaves may occur, leading to sunscald of fruit.

Green or red fruit may be infected by the fungus which invades at the point of attachment between the stem and fruit, and through growth cracks and wounds made by insects. Dark lesions enlarge in a concentric fashion and may affect large areas of the fruit. Mature lesions in fruit are typically covered by a black velvety mass of fungal spores.

Stem lesions are dark, slightly sunken and enlarge concentrically. Basal girdling and death of seedlings may occur.

Downy mildew

Respondents in Palm Beach County report that downy mildew has reached moderate levels in some older squash and is high in some old cucumber.

Around Southwest Florida, downy mildew coming on strong in cucumbers, watermelons and squash and incidence is high in older squash and cukes.

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

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

Spray programs for downy mildew are most effective when initiated prior to the first sign of disease since once a planting becomes infected; it becomes more and more difficult for fungicides to control downy mildew. A range of fungicides is available for the control of downy mildew depending on the crop. Newer oomycete specific products are useful in combatting the disease.

Powdery mildew

Around Immokalee, powdery mildew is common in squash and there is little showing in some watermelons as well.

On the East Coast, powdery mildew is becoming an issue in squash beginning to fruit.

Fusarium wilt

Fusarium wilt race 3 continues to cause problems in a number of fields around Manatee County.

With phase-out of methyl bromide, the occurrence and severity of soilborne pathogens like fusarium wilt are becoming a more frequent sight across the state.

While there are resistant tomato varieties for fusarium wilt many are resistant to races 1 and 2 but only a few are resistant to all 3 races and often times these are more susceptible to bacterial spot and may produce fruit which are smaller than the standards growers are used to.

Southern Blight

Southern blight is causing some issues around South Florida especially in fields planted under wet conditions. Incidence and occurrence is mostly spotty.

Southern blight is caused by a soil-born fungus, *Sclerotium rolfsii* and can be a widespread problem in Florida's fall season. Typical symptoms include a whitish fungal growth develops around the base of plants at the ground line followed by wilting and sudden plant death as the fungus girdles the stem. Small seed-like structures (sclerotia) may be found within fungal mass. They are white at first and later turn dark brown to black.

The disease usually appears in "hot spots" in fields in early fall and continues until cooler, dryer weather prevails.

Soil fumigation fumigant combinations containing chloropicrin and or metam can help reduce the incidence of southern blight. As growers transition to other less efficacious fumigants some scientists fear the disease may become more prevalent over time.

Recent trials show that Fontelis - DuPont (penthiopyrad) applied at plant, pre-plant incorporated, as a transplant drench or through the drip has provided good control of southern blight.

Gummy stem blight

Around Southwest and South Central Florida, growers and scouts report that gummy stem blight has slowed greatly in recent weeks but is still present in some watermelon.

Southern Corn Leaf Blight

Low levels of southern corn leaf blight are present on sweet corn in the Glades.

Southern corn leaf blight is caused by the fungus *Bipolaris maydis*. Mature foliar lesions can be rounded on the sides but they tend to be parallel-sided, often restricted by the veins.

Lesions are light tan in the center with a reddish-brown border. A greenish growth near the center of the lesion may be evident if spores are present. Mature lesions range from 1/4 to 1 1/2 inches in length and may be tapered, flat or serrated on the ends.

Lesions caused by southern corn leaf blight are much smaller (up to 1/2 inch wide and 1 inch long) than those caused by northern corn leaf blight. 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*.

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

Fungicides should be applied early, particularly if the forecast is for warm, humid weather. As with northern corn leaf blight, the sterol inhibitors and strobilurin fungicides are most efficacious. These products should be used together with a broad spectrum protectant to minimize development of fungal resistance.

Southern Corn Rust

Low levels of southern corn rust is also present on sweet corn in the Glades.

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

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

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

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

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

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

Cercospora leaf spot

Lettuce growers in the Glades are reporting some problems with Cercospora leaf spot. Leaf spot is caused by the fungus (*Cercospora longissima*). Leaf spot is generally a fall disease due to the warm weather and has been particularly active this fall due to unseasonable hot weather.

The disease is generally controlled incidentally with a prophylactic program of various strobilurin fungicides. Fontelis has also proven effective in providing control.

Inoculum comes in from weeds, so keeping clean ditch banks and disking down harvested fields are the cultural practices used to reduce this disease.

Erwinia Soft Rot

A number of growers in the Manatee Ruskin area are reporting post-harvest problems with Erwinia soft rot in pepper most like associated with hot wet conditions this fall.

The problem with bell pepper is the presence of openings around the calyx that can allow rain water to actually enter the fruit. Any pathogens, such as Erwinia, would be carried inside to that warm, moist, protected environment. Once this occurs, no amount of postharvest sanitizing will remove it.

Tanos tank mixed with copper may provide suppression if applied preventatively in the field. Good irrigation management to reduce cracking and avoiding harvesting wet fruit may also reduce problems.

Lettuce growers in the EAA are also experiencing some problems with soft rot.

Basil Downy Mildew

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

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

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

Cucurbit crumple virus

Low levels of cucurbit crumple virus is being reported in some fall watermelons. This is a whitefly vectored virus so whitefly control is essential in management of this disease.

Green beans are an alternate host of this virus so growers may want consider placement of cucurbits in proximity to green beans.

Management of this virus is not much different than management of other begomoviruses in vegetable crops such as Tomato yellow leaf curl virus in tomato. Virus- and whitefly-free transplants should be used.

Where whiteflies are a problem, a soil-applied neonicotinoid insecticide such as imidacloprid (Admire®), thiamethoxam (Platinum®), or dinotefuran (Venom®) should be used at planting for longer season cucurbits.

If a foliar application of a neonicotinoid insecticide such as acetamiprid (Assail®), dinotefuran, or thiamethoxam (Actara®), is used instead of a soil application, it is best to apply it in the first 30 days of the crop, before flowering. In addition to protecting bees, it also will help limit the exposure of the whitefly population to neonicotinoids during the latter part of the crop cycle.

Spiromesifen (Oberon®) is effective against immature stages of the whitefly as is buprofezin (Courier®), and pyriproxyfen (Knack®), both insect growth regulators. Although spiromesifen, pyriproxyfen, and buprofezin affect mostly reproduction and survival of immatures, they can help reduce secondary spread within and between fields by slowing the increase of the whitefly population.

Because of concerns about insecticide resistance in whiteflies, it is critically important to observe the restrictions on the number of applications, to rotate insecticide applications among chemicals in different classes, and never follow a soil application of any neonicotinoid with a foliar application of another neonicotinoid.

For more information, see Whitefly-Transmitted Cucurbit Leaf Crumple Virus in Florida - <http://edis.ifas.ufl.edu/in716>

Tomato Chlorotic Spot Virus

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

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

Homestead remains the hotspot for Tomato chlorotic spot virus and growers report that they are beginning to see symptoms of the disease in tomato. Incidence is mostly low at 1% or less in most fields.

The tospovirus, Tomato chlorotic spot virus (TCSV) was first identified in Florida in field grown tomato plants in Miami-Dade and Hendry Counties in 2012 emerged as a major problem in Miami Dade this past season where it is caused significant problems for tomato growers.

Finding TCSV infections in transplant houses is an alarming new development as it could aid the spread of this virus around South Florida and beyond.

Early symptoms of infection are difficult to diagnose. In young infected plants the characteristic symptoms consist of inward cupping of leaves and leaves that develop a bronze cast followed by dark necrotic spots.

Tomato chlorotic spot virus causes necrosis in tomato leaves and stems, and causes ringspots and other deformations of the fruit. The symptoms are nearly identical to those of groundnut ringspot virus and laboratory diagnosis is necessary to distinguish on from the other. '=

It is known from studies conducted in Brazil, that TCSV can be transmitted by a number of species of thrips and that some thrips are more efficient vectors than others. Like other tospoviruses, tomato chlorotic spot virus replicates in its vector as well as in the plant. While the vector status of many thrips species is known with regard to transmission of tomato spotted wilt virus, only five thrips species have been tested for their ability to transmit TCSV. Currently western flower thrips and common blossom thrips are known to be vectors.

The use of virus-free transplants, scouting, insecticides to control thrips, rouging infected plants, SAR elicitors such as Actigard, and UV-reflective mulch will likely be effective in managing TCSV.

Resistance to TSWV seems to confer resistance to TCSV in trials conducted in Miami Dade County and elsewhere.

Tomato Yellow Leaf Curl

Incidence and occurrence of TYLCV remains mostly low and spotty on tomatoes around South Florida, although a few hotspots have been reported in a couple of fields where incidence is higher.

News You Can Use

Study finds more Mexicans leaving the US than coming

By Elliot Spagat
Associated Press
November 19, 2015

SAN DIEGO — More Mexicans are leaving the United States than migrating into the country, marking a reversal of one of the most significant immigration trends in U.S. history.

A study published Thursday by the Pew Research Center said a desire to reunite families is the primary reason Mexicans go home. A sluggish U.S. recovery from the Great Recession also contributed. Meanwhile, tougher border enforcement has deterred some Mexicans from coming to the United States.

Pew found that slightly more than 1 million Mexicans and their families, including American-born children, left the U.S. for Mexico from 2009 to 2014. During the same time, 870,000 Mexicans came to the U.S., resulting in a net flow to Mexico of 140,000.

A half-century of mass migration from Mexico is "at an end," said Mark Hugo Lopez, Pew's director of Hispanic research.

The finding follows a Pew study in 2012 that found net migration between the two countries was near zero, so this represents a turning point in one of the largest mass migrations in U.S. history. More than 16 million Mexicans moved to the United States from 1965 to 2015, more than from any other country.

"This is something that we've seen coming," Lopez said. "It's been almost 10 years that migration from Mexico has really slowed down."

The findings counter the narrative of an out-of-control border that has figured prominently in U.S. presidential campaigns, with Republican Donald Trump calling for Mexico pay for a fence to run the entire length of the 1,954-mile frontier. Pew said there were 11.7 million Mexicans living in the U.S. last year, down from a peak of 12.8 million in 2007. That includes 5.6 million living in the U.S. illegally, down from 6.9 million in 2007.

In another first, the Border Patrol arrested more non-Mexicans than Mexicans in the 2014 fiscal year, as more Central Americans came to the U.S., mostly through South Texas, and many of them turned themselves in to authorities.

The authors analyzed U.S. and Mexican census data and a 2014 survey by Mexico's National Institute of Statistics and Geography. The Mexican questionnaire asked about residential history, and found that 61 percent of those who reported living in the U.S. in 2009 but were back in Mexico last year had returned to join or start a family. An additional 14 percent had been deported, and 6 percent said they returned for jobs in Mexico.

Still, it's this lack of jobs in the U.S. — not family ties — that is mostly motivating Mexicans to leave, said Dowell Myers, a public policy professor at the University of Southern California. Construction is a huge draw for young immigrants, but has yet to approach the levels of last decade's housing boom, he said.

"It's not like all of a sudden they decided they missed their mothers," Myers said. "The fact is, our recovery from the Great Recession has been miserable. It's been miserable for everyone."

Also, Mexico's population is aging, meaning there's less competition for young people looking for work there. That's a big change from the 1990s, when many people entering the workforce felt they had no choice but to migrate north of the border, Myers said.

While the U.S. economic recovery is sluggish, Mexico has been free in recent years from the economic tailspins that drove earlier generations north in the 1980s and 1990s. The peso is relatively stable, inflation is manageable, and while many parts of Mexico suffer grinding poverty and violence, others -- especially in the more industrial northern half -- have become thriving manufacturing centers under the North American Free Trade Agreement, producing cars, airplanes and other heavy equipment.

"The main reason for my return is family," José Arellano Correa, a 41-year-old Mexico City taxi driver who came back from the U.S. in 2005. "I could help them while I was there, but family comes before money."

Mexicans who remain in the U.S. are more settled than before, Pew said: Their median age was 39 years in 2013, compared to 29 in 1990. More than three in four had been in the U.S. for more than a decade, compared to only half in 1990.

Another telling statistic: 35 percent of adults in Mexico say they have friends or relatives they regularly communicate with or visit in the U.S., a Pew survey this year found. That's down 7 percentage points from 2007.

Guadalupe Romo, 49, has lived in Fresno, California, for 26 years and has no plans to leave.

"We have our life here," she said at Fresno's Mexican consulate. "There's no point in going back to Mexico."

Bayer CropScience Vegetable Seeds and the National Watermelon Association Partner to Aid Watermelon Growers

Bayer CropScience Vegetable Seeds and the National Watermelon Association (NWA) are entering into an unprecedented partnership to attract new members into the association.

Effective immediately and for the next two years, Bayer is funding first-year memberships to all eligible watermelon growers.

Bayer and the NWA want to spread this message to the watermelon industry: if you are a watermelon grower, we need you! We will fully fund your membership so you may explore everything the NWA has to offer at no cost.

As the voice of its members on important issues such as trade, labor, research and food safety, to name a few, the NWA stresses the importance of association involvement from new generations of watermelon growers and being a part of these issues as they start their careers. And not to forget seasoned growers, the partnership welcomes their membership as well.

"We are elated that Bayer, within Nunhems® brand, has agreed to fund first-year dues to all new members and therefore aid us in growing the National Watermelon Association," said Bob Morrissey, NWA executive director. "We encourage growers and partners in the watermelon industry to share their talents and strengths with the NWA and allow us to share our expertise with them as well. The bigger we are, the stronger we become."

Bayer encourages watermelon growers to assume leadership in the industry by sharing in scientific research, having a voice in federal legislation, and joining the conversations surrounding industry concerns.

“The National Watermelon Association has supported the watermelon industry for over 100 years. It is important for our company to support the growth of the association and its affiliated state chapters. At Bayer CropScience Vegetable seeds, we believe in the strengths of individuals and groups, to reach success.” said Rafa Mora, Watermelon and Melon crop sales manager at Bayer Crop Science Vegetable Seeds, parent division of Nunhems. “We share in their vision and dedication to make a positive difference in the business and improve the lives of our industry members; this is one thing we can do to help the legacy of the watermelon industry.”

National membership in the NWA provides immediate access to corresponding affiliated state chapters. For more information on how to become a member of the NWA, please visit <http://watermelon.ag/membership-benefits/>

Revisions to the Worker Protection Standard.

On September 28, 2015 EPA finalized revisions to the worker protection standard. This final rule enhances the protections provided to agricultural workers, pesticide handlers, and other persons under the Worker Protection Standard (WPS) by strengthening elements of the existing regulation, such as training, notification, pesticide safety and hazard communication information, use of personal protective equipment, and the providing of supplies for routine washing and emergency decontamination.

The majority of the rule revisions will be effective approximately 14 months after the rule publishes in the Federal Register. This will give farmers and states time to adjust to the new requirements, as well as time for EPA and states to develop updated materials for training and other purposes.

What are the Major Changes for Farmers and Farmworkers?

The revisions to the Worker Protection Standard cover many different areas. The major revisions include:

- Annual mandatory training to inform farmworkers on the required protections afforded to them. Currently, training is only once every 5 years.
- Expanded training includes instructions to reduce take-home exposure from pesticides on work clothing and other safety topics.
- First-time ever minimum age requirement: Children under 18 are prohibited from handling pesticides.
- Expanded mandatory posting of no-entry signs for the most hazardous pesticides. The signs prohibit entry into pesticide-treated fields until residues decline to a safe level.
- New no-entry application-exclusion zones up to 100 feet surrounding pesticide application equipment will protect workers and others from exposure to pesticide overspray.
- Requirement to provide more than one way for farmworkers and their representatives to gain access to pesticide application information and safety data sheets – centrally-posted, or by requesting records.
- Mandatory record-keeping to improve states’ ability to follow up on pesticide violations and enforce compliance. Records of application-specific pesticide information, as well as farmworker training, must be kept for two years.
- Anti-retaliation provisions are comparable to Department of Labor’s (DOL).
- Changes in personal protective equipment will be consistent with DOL’s standards for ensuring respirators are effective, including fit test, medical evaluation and training.
- Specific amounts of water to be used for routine washing, emergency eye flushing and other decontamination, including eye wash systems for handlers at pesticide mixing/loading sites.
- Continue the exemption for farm owners and their immediate families with an expanded definition of immediate family.

You can read the revised WPS here: http://www2.epa.gov/sites/production/files/2015-09/documents/agricultural_worker_protection_standard_revisions.pdf

Here is a chart which compares the old WPS with the Revised WPS

<http://www2.epa.gov/sites/production/files/2015-09/documents/comparison-chart-wps.pdf>

2015 Oriental Fruit Fly Eradication Program - Miami-Dade County

The last oriental fruit fly was caught on Oct 10, 2015 and it is now 43 days since a fly was caught. Based on temperature projections that affect OFF life cycles and provided there are no additional finds, the estimated End Date of Quarantine will be February 21, 2016. For more info, go to

<http://www.freshfromflorida.com/Divisions-Offices/Plant-Industry/Pests-Diseases/Exotic-Fruit-Flies/Oriental-Fruit-Fly-Information/Industry-Program-Information>

Up Coming Meetings

December 1, 2015 UF/IFAS 2015 Suwannee Valley Watermelon Institute

**Straughn IFAS Extension Professional Development Center
2142 Shealy Drive
Gainesville, FL 32611**

AGENDA (Session Details Below)

9:30am—12:00 noon Optional Watermelon Industry Workshop Annual Food Safety Update including HACCP for Watermelon Packinghouses (Includes Sponsored Lunch)

11:30am—1:00pm Exhibitor Set-Up Time

(Lunch Provided for Exhibitors)

1:00pm—2:00pm Registration and Visit Exhibitors

2:00pm—2:15pm Welcome

2:15pm—3:30pm Session 1

3:30pm—4:45pm Watermelon Growers and Industry Social 4:45pm—6:00pm Session 2

6:00pm—7:00pm Dinner

7:00pm Safe Journey Home

This institute is organized and provided to you by the Suwannee River Partnership and the UF/IFAS County Extension offices in the following counties: Alachua, Bradford, Columbia, Dixie, Gilchrist, Hamilton, Jefferson, Lafayette, Levy, Madison, Suwannee, Taylor, and Union. Funding support is provided by allied industry representatives serving the watermelon industry in Florida.

2015 Suwannee Valley Watermelon Institute

To register: call 386-362-1725, ext. 101 or 102 or visit:
<http://2015watermeloninstitute.eventbrite.com>

DETAILED AGENDA

9:30am-Noon—Optional Watermelon Food Safety Workshop

Topics include: Update on FSMA,

How to Understand and Explain Watermelon Grower's Packinghouse HACCP plans, and other Food Safety Updates Important to Watermelon Growers

Presenters: Michelle Danyluk Associate Professor, UF/IFAS Citrus REC

Keith Schneider Professor, UF/IFAS Food Science and Human Nutrition Department

(Lunch provided to workshop attendees at noon)

11:30am—Exhibitor Set-Up Time

(Lunch provided to exhibitors at noon)

1:00pm—Suwannee Valley Watermelon Institute Begins

Registration and Visit to Exhibitors

Session 1

Moderator: Elena Toro, UF/IFAS Suwannee County Extension, Live Oak, FL

2:00pm—Welcome Comments

UF/IFAS Welcome- Dr. Eric Simonne, UF/IFAS Northeast Florida District Extension Director

Florida Watermelon Association Welcome- Laura Land, 1st Vice President FWA

2:15pm – Greetings from Your Florida Watermelon Queen, Ms. Kelli Wilder

2:30- Research on Watermelon Diseases, Resistance Management and Fungicide Trials (Fusarium Wilt, Gummy Stem Blight)

Mathews Paret, UF/IFAS Extension Plant Pathologist, North Florida Research and Education Center, Quincy, FL

Nick Dufault, UF/IFAS Extension Plant Pathologist, Plant Pathology Department, Gainesville, FL

Mason Newark, UF/IFAS Graduate Student, Plant Pathology Department, Gainesville, FL

Tatiana Sanchez, UF/IFAS Postdoctoral Researcher Plant Pathology Department, Gainesville, FL

3:10 pm- Soil Fumigant Research on Fusarium Wilt and New Non-fumigant Nematicides for Watermelon

Josh Freeman, UF/IFAS Extension Vegetable Specialist, North Florida REC, Quincy, FL

3:35 — 4:45 pm Watermelon Growers and Industry Social

Refreshments and Visit Exhibitors

Session 2

Moderator: Aparna Gazula, UF/IFAS Alachua County Extension, Gainesville, FL

4:45pm -On-Farm Research on Petiole Sap Testing for Seeded versus Seedless Watermelon

Bob Hochmuth, UF/IFAS, Regional Extension Agent, Suwannee Valley Ag Extension Center, Live Oak, FL

5:10 pm- Water regulation and allocation updates including BMAPs in the Suwannee Valley region

Hugh Thomas, FDACS, Office of Ag Water Policy, Live Oak, FL

5:25pm—New Pollinator Protection and Pesticide Label Requirements for Watermelon Growers

Jeanette Klopchin, FDACS, Environmental Specialist III- Pollinator Protection

Division of Agricultural Environmental Services, Tallahassee, FL

6:00pm—Receive Your Pesticide Applicator CEUs and Certified Crop Advisor CEUs from Institute CEU Coordinator

Dan Fenneman, UF/IFAS Madison County Extension, Madison, FL

6:00pm—Dinner - Catered by Hill's BBQ

7:00 p.m. Safe Journey Home

December 3, 2015

Fall Vegetable Field Day

9 am to 1 pm

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

AGENDA

9:00am Welcome, Dr. Calvin Arnold, Center Director, UF/IFAS-SWFREC

9:05 Introduction, Dr. Monica Ozores-Hampton, UF/IFAS-SWFREC and Gene McAvoy, UF/Hendry County Extension Service, LaBelle.

9:15 Dr. Monica Ozores-Hampton, Francesco Di Gioia, Horticultural Science Department, UF/IFAS-SWFREC (Field 8)

- Anaerobic soil disinfestation on tomato production
- Pelletized food waste and biosolids compost in tomato production

9:45 Dr. Kelly Morgan, Timothy Ayankoj, Water and Soil Department UF/IFAS-SWFREC (Field 8)

- Scheduling of tomato drip irrigation with a Smartphone App

10:15 Dr. Pamela Roberts, Plant Pathology, UF/IFAS-SWFREC (Field 6)

- Bacterial spot
- Target spot on tomato
- Bacterial spot on pepper
- Powdery mildew on squash

10:45 Dr. Phil Stansly, Barry Kostyk, Entomology, UF/IFAS-SWFREC (Fields 3 & 4)

- Biological control of whitefly with the plant bug *Nesidiochoris tenuis* in tomato interplanted with sesame as a trap crop.
- Worm control on Bt field and sweet corn compared to a conventional insecticide program
- Insecticidal control of Southern Armyworm
- Comparison of Sivanto/Venom/Scorpion/Admire/Certador drenches for whitefly control
- Cygon for control of vegetable leafminer on tomato
- Evaluation of Portal vs Agrimek for control of broadmite on bell pepper
- Pepper weevil control with an Experimental Insecticide on Jalapeno peppers
- Pepper weevil control on Jalapeno with Verimark as a tray drench, soil drench and drip application versus reflective mulch
- Fall armyworm control with Bt-corn and conventional insecticides

11:30 Auditorium

- Dr. Francesco Di Gioia, Monica Ozores-Hampton, and Erin Rosskof, Horticultural Science Department, UF/IFAS-SWFREC, History and principles of Anaerobic soil disinfestation
- Dr. Sanjay Shukla, Agricultural and Biological Engineer, UF/IFAS-SWFREC. Compact bed geometry for drip irrigated tomato and pepper

Lunch—**Generously provided by FMC.**

3 RUP and CCA CEUs will be provided.

RSVP Jennifer Derleth @ jderleth@ufl.edu

January 7 -10, 2016 2016 SE Regional Fruit and Vegetable Conference

Savannah, Georgia

For registration and more info, go to <http://www.seregionalconference.com/registration/>

Websites

Web Soil Survey (WSS) provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA Natural Resources Conservation Service (NRCS) and provides access to the largest natural resource information system in the world. NRCS has soil maps and data available online for more than 95 percent of the nation's counties - <http://websoilsurvey.nrcs.usda.gov/app/>

The Pesticide Environmental Stewardship (PES) Website is sponsored by the Center for Integrated Pest Management. PES provides convenient access to information on proper pesticide handling. All subject matter content on this site has been reviewed and posted by Pesticide Safety Education Program coordinators from the Cooperative Extension Service. This website is intended for a national audience with links to state-specific information, where available. Crop producers, pesticide dealers, commercial/professional applicators and the general public will benefit from the information presented in each topic, or module. Go to <http://pesticidestewardship.org/Pages/default.aspx>

Create an On-Farm Food Safety Plan! - The On-Farm Food Safety Project helps you learn about food safety, create a personalized on-farm food safety plan, and become food safety certified. Go to <http://onfarmfoodsafety.org/>

Primus Labs – online tool that will help you develop a food safety manual, free registration at <http://intranet.primuslabs.com/igap/register/default.asp>

FDACs Office of Ag Water Policy - BMP Manuals – you will also find link to enroll in a BMP program. Go to <http://www.freshfromflorida.com/Divisions-Offices/Agricultural-Water-Policy/Enroll-in-BMPs/BMP-Rules-Manuals-and-Other-Documents>

Quotable Quotes

Nothing great was ever achieved without enthusiasm. - Ralph Waldo Emerson

Ability may get you to the top, but it takes character to keep you there. – John Wooden

Facts don't cease to exist because they are ignored. - Aldous Huxley

The adventure of life is to learn. The purpose of life is to grow. The nature of life is to change. The challenge of life is to overcome. The essence of life is to care. The opportunity of life is to serve. The secret of life is to dare. The spice of life is to befriend. The beauty of life is to give. – William Arthur Ward

No arsenal, or no weapon in the arsenals of the world, is as formidable as the will and moral courage of free men and women. – Ronald Reagan

Throughout past history Liberty has always walked between the twin terrors of Tyranny and Anarchy. They have stalked like wolves beside her, with murder in their red eyes, ever-ready to tear each other's throats, but even more ready to rend in sunder Liberty herself. - Theodore Roosevelt

On the Lighter Side

OLD WORDS AND PHRASES REMIND US OF THE WAY WE WORD

By: Richard Lederer

In the past I illuminated old expressions that have become obsolete because of the inexorable march of technology.

These phrases included: don't touch that dial, carbon copy, you sound like a broken record and hung out to dry. A bevy of readers have asked me to shine light on more faded words and expressions, and I am happy to oblige:

Back in the olden days we had a lot of moxie. We'd put on our best bib and tucker and straighten up and fly right. Hubba-hubba!

We'd cut a rug in some juke joint and then go necking and petting and smooching and spooning and billing and cooing and pitching woo in hot rods and jalopies in some passion pit or lovers' lane.

Heavens to Betsy! Gee whillikers! Jumpin' Jehoshaphat! Holy Moley! We were "in like Flynn" and living the life of Riley, and even a regular guy couldn't accuse us of being a knucklehead, a nincompoop or a pill. Not for all the tea in China!

Back in the olden days, life used to be swell, but when's the last time anything was swell? Swell has gone the way of beehives, pageboys and the D.A.; of spats, knickers, fedoras, poodle skirts, saddle shoes and pedal pushers. Oh, my aching back. Kilroy was here, but he isn't anymore.

Like Washington Irving's Rip Van Winkle and Kurt Vonnegut's Billy Pilgrim, we have become unstuck in time. We wake up from what surely has been just a short nap, and before we can say, "I'll be a monkey's uncle!" or "This is a fine kettle of fish!" we discover that the words we grew up with, the words that seemed omnipresent as oxygen, have vanished with scarcely a notice from our tongues and our pens and our keyboards.

Poof, poof, poof go the words of our youth, the words we've left behind. We blink, and they're gone, evanesced from the landscape and wordscape of our perception, like Mickey Mouse wristwatches, hula hoops, skate keys, candy cigarettes, little wax bottles of colored sugar water and an organ grinder's monkey.

Where have all those phrases gone? Long time passing. Where have all those phrases gone? Long time ago: Pshaw. The milkman did it. Think about the starving Armenians. Bigger than a bread box. Banned in Boston. The very idea! It's your nickel. Don't forget to pull the chain. Knee high to a grasshopper. Turn-of-the-century. Iron curtain. Domino theory. Fail safe. Civil defense. Fiddlesticks! Kiddidlehopper! You look like the wreck of the Hesperus. Cooties. Going like sixty. I'll see you in the funny papers. Don't take any wooden nickels. Heavens to Murgatroyd! And Awa-a-ay we go!

Oh, my stars and garters! It turns out there are more of these lost words and expressions than Carter had liver pills. This can be disturbing stuff, this winking out of the words of our youth, these words that lodge in our heart's deep core. But just as one never steps into the same river twice, one cannot step into the same language twice. Even as one enters, words are swept downstream into the past, forever making a different river.

We of a certain age have been blessed to live in changeful times. For a child each new word is like a shiny toy, a toy that has no age. We at the other end of the chronological arc have the advantage of remembering there are words that once did not exist and there were words that once strutted their hour upon the earthly stage and now are heard no more, except in our collective memory. It's one of the greatest advantages of aging. We can have archaic and eat it, too!

Thanksgiving Thoughts

Count your blessings instead of your crosses;
Count your gains instead of your losses.
Count your joys instead of your woes;
Count your friends instead of your foes.
Count your smiles instead of your tears;
Count your courage instead of your fears.
Count your full years instead of your lean;
Count your kind deeds instead of your mean.
Count your health instead of your wealth;
Count on God instead of yourself.

Thank You Lord for all our Blessings - for family and friends and this wonderful world you have created in the glory and honor of Your Holy Name. Thank you for America's farmers who grow our economy, care for our land and provide the food, fuel and clothing that we all depend on every day, and thanks for all the men and women in uniform serving our country today and protecting our freedom.

Happy Thanksgiving to all our family and friends, we truly have a lot to be thankful for!

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

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

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

Gene McAvoy

Gene McAvoy
County Extension Director / Extension Agent IV
Regional Specialized Agent - Vegetables/Ornamental Horticulture

Hendry County Extension Office
PO Box 68
LaBelle, Florida 33975
Web: <http://hendry.ifas.ufl.edu/>

863-674-4092 phone
863-673-5939 mobile
863-674-4637 fax
GMcAvoy@ifas.ufl.edu

Special Thanks to the **generous support** of our **sponsors**; who make this publication possible.

Thomas Produce Company
Of South Florida
Grower and Shippers of Quality Vegetables
9905 Clint Moore Road
Boca Raton, Florida 33496

Shawn Barley
Wedgworth's Inc.
Big W Brand Fertilizer
(863) 441-9255 cell

Carol Howard
Mobley Plant World
1351 W Cowboy Way
LaBelle, Florida 33935
Phone 863-675 -2020

Fred Heald
The Andersons
710 Broward Street
Immokalee, FL 34142
Phone 239-657-8254 Fax 239-657-2005

Gargiulo
Growers Shippers Importers Exporters
David Pensabene: Production Manager
Naples Operations
Phone 239-353-0300 Fax 239-353-3407

Nichino America
Makers of Courier, Portal & Vetica
Technical Sales Representatives
Todd Villars: West Florida - 863-532-0937
Sam Monroe: East Florida - 772-473-0873

Dr. Nancy Roe
Farming Systems Research
5609 Lakeview Mews Drive
Boynton Beach, Florida 33437
Phone 561-638-2755

Ed Early
DuPont Crop Protection
Fort Myers, Florida 33911
Mobile 239-994-8594

Glades Crop Care, Inc.
**Leaders in Crop Health
Management**
Charlie Mellinger, Ph.D.
Phone 561-746-3740 Fax 561-746-3775

Stacey Howell
Bayer CropScience
3481 3rd Ave NW
Naples, FL 34120
Phone (239) 353-6491 Cell (239) 272-8575

Justin Powell
Southeast Business Leader
Adama
229 881 9757 cell
jpowell@manainc.com

Bart Hoopingarner
Gowan Company
3605 162nd Ave East
Parrish, FL 34219
Phone 941-776-1105 Cell 941-737-7444

Special Thanks to the **generous support** of our **sponsors**; who make this publication possible.

Cody Hoffman
Syngenta Crop Protection
1505 Paloma Dr.
Fort Myers, FL 33901
Cell 321- 436-2591

OmniLytics - AgriPhage
Safe Natural Effective
Vegetable Bacteria Control
Dave Cole - 561-261-1545
Tony Swensen - 801-808-2132

Dave Owens
Marrone Bio Innovations
Cell 239-233-9073 or
dowens@marronebio.com

Brent Beer
**Beer Leveling &
Land Development**
Office 863-675-1663 863-673-3173 cell
158*17*43857 Nextel

Certis USA
Bio-Pesticides for Crop Production

Joe Craig - 863-291-9203
Chuck Goodowns - 352-538-4471

Scott Houk
Dow AgroSciences LLC

Phone 239-948-3999
Email sehok@dow.com

FMC
FMC Corporation APG
Ron Palumbo
Cell 305-304- 7941
Nextel Agnet 14772
Ronald.Palumbo@fmc.com www.fmccrop.com

Steve Mike Dave
Jamerson Farms

Growers, Packers and Shippers of
Florida's Finest Vegetables
Phone 239-229-5734 Fax 239-368-0969

Sarah Hornsby, CCA
Agricultural Crop Consulting, Inc
Scouting: Manatee, Hillsborough, Collier
Office/Fax 941-776-1122
Cell 941-713-6116
Email: AgCropCon@aol.com

Donald Allen
AGLIME SALES INC
PO Box 60
Babson Park, Florida 33827-0060
Office 863-638-1481 Fax 863-638-2312
Mobil 863-287-2925

BioSafe Systems LLC
OxiDate®
TerraClean®
StorOx®

Jarod Huck
352-789-9363

Luis Hansen
305.793.9206

info@biosafesystems.com

PUT YOUR NAME HERE

Special Thanks to the **generous support** of our **sponsors**; who make this publication possible.

Garry Gibson
BASF Corporation
1502 53rd Avenue
Vero Beach, Florida 32966
Office 772-778-4646 AGNET 21726
w.garry.gibson@basf.com

ORO AGRI
Pesticides and Spreader Oils
OROCIT/ PREV-AM/WETCIT
Reese Martin rmartin@oroagri.com
CPS/Howards/Triangle

Valent USA
"Products That Work
From People Who Care"
Sarah Markle 863-673-8699

Jack Kilgore
239-707-7677
MonsantoBioAg
Actinovate® AG
Biological Fungicide

Chuck Obern
C & B Farm
CR 835
Clewiston, FL 33440
Office 863-983-8269 Fax 863-983-8030
Cell 239-250-0551

Scott Allison
Diamond R Fertilizer
PO Box 1898
LaBelle, FL 33975
(863) 675-3700
sagator@aol.com

Jay Hallaron
Arysta Life Science
321-231-2277 cell 407-256-4667 cell
Jay.Hallaron@arysta.com

Richard Roles
Roles Marketing International
Distributors of Agrigro and Super
Cal 10% Calcium
richard@rmiint.com www.rmiint.com
Cell 561-644-3511

Dr. Henry Yonce
KAC Agricultural Research
Scouting, Consulting
Research
386-736-0098 work 386-527-1124 cell
HDYONCE@msn.com

Grower's Management, Inc
P.O. Box 130
Belle Glade, FL 33430
Phone: 561-996-6469
www.growersmanagement.com

PUT YOUR NAME HERE

PUT YOUR NAME HERE

NOTE: The acknowledgement of sponsorship in no way constitutes or reflects an official endorsement of these businesses or their products or services by either the University of Florida, IFAS, the Florida Cooperative Extension Service, or the Hendry County Extension Office. Sponsors have no control over the content of this publication.