



Palm Beach County Extension 559 N. Military Trail WPB, Florida 3315 Phone (561) 233-1700

# SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE

September 20, 2015

**In late August, growers watched Tropical Storm Erika anxiously for a few days but thankfully it dissipated before striking Florida.** Otherwise, it has been a long hot summer. Daytime temperatures have been running in the low to mid 90's with most nights in the 70's.

**Many locations were relatively dry until mid-August with some East Coast locations experiencing abnormally dry to drought conditions.** Since then most places have seen between 9 and 15 inches of rain since then with much of it coming in the later part of August and early September. Some individual farms have reported even higher amounts during this period. Near daily rains over the past week has disrupted land prep and planting schedules in a number of places and has kept growers running their throw-out pumps.

**FAWN Weather Summary**

Date	Air Temp °F		Rainfall (Inches)	Ave Relative Humidity (Percent)	ET (Inches/Day) (Average)
	Min	Max			
<b>Balm</b>					
8/1 – 9/20/14	69.42	97.25	12.12	87	0.15
<b>Belle Glade</b>					
8/1 – 9/20/14	70.03	97.03	9.04	90	0.17
<b>Clewiston</b>					
8/1 – 9/20/14	70.39	97.30	15.36	85	0.15
<b>Ft Lauderdale</b>					
8/1 – 9/20/14	71.67	94.87	13.92	81	0.16
<b>Homestead</b>					
8/1 – 9/20/14	70.47	95.20	12.61	86	0.15
<b>Immokalee</b>					
8/1 – 9/20/14	67.41	99.72	15.08	87	0.15
<b>Okeechobee</b>					
8/1 – 9/20/14	73.04	98.13	10.47	73	0.14
<b>Wellington</b>					
8/1 – 9/20/14	70.47	96.57	15.42	86	0.15

**“Remember, when in doubt - scout.”**

**Growers are reporting some salt damage in fields which received heavy rains and flooding.**

**The National Weather Service reports that by Monday the shortwave/low which brought wet conditions to South Florida this past week will continue to pull further away with a fairly weak low level pressure gradient across the region bringing with it a relatively drier air mass.** Rainfall early next week will be primarily sea breeze driven activity favoring the interior to Gulf Coast with likely some nocturnal Atlantic activity.

**The pattern changes again mid-late week.** Models show a trough moving into the eastern us that cuts off over Florida and the Deep South bringing the mid-level flow back to the south and deeper moisture back over Florida by late week bringing a return to a stormy pattern towards the middle to end of 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**

**Growers and scouts in Hillsborough County are reporting mostly low levels of whitefly but note that they did see a spike a couple of weeks ago in early plantings.**

**In Manatee County, respondents report large numbers of whiteflies in the first planting and note that some virus is beginning to show up now.**

**Around Southwest Florida, reports indicate that growers are seeing variable numbers of whiteflies, with a number of farms already reporting serious pressure on young plantings.** Scouts also report finding nymphs in a few early fields and a few TYLCV infected plants on some farms.

**On the East Coast, whiteflies are common but numbers are mostly low.** Growers report finding low levels of TYLCV with one infected plant here and there in the 1st bloom aged plantings.

## **Recommendations**

- **Crop Hygiene**

Field hygiene should be a high priority and should be an integral part of the overall strategy for managing whitefly populations, TYLCV incidence, and insecticide resistance. These practices will help reduce the onset of the initial infestation of whitefly, regardless of biotype, and lower the initial infestation level during the cropping period.

- Establish a minimum 2-month crop free period during the summer, preferably from mid-June to mid-August in south and south central Florida.

- **Pre-plant Cultural Control Practices**

Reduce overall whitefly populations and avoid introducing whiteflies and TYLCV into crops by strict adherence to good cultural practices.

- Plant whitefly and virus-free transplants.

- Use transplants grown in isolation from production fields.
- Inspect transplants for whiteflies and other pests and diseases
- Delay planting new fall crops as long as possible.
- Do not plant new crops near or adjacent to old, infested crops, especially of tomato but also of other whitefly sources such as cucurbits or possible sources of TYLCV like pepper or beans.
- Use determinant varieties of grape tomatoes to avoid extended cropping season.
- Use TYLCV resistant tomato cultivars (see additional information below for list) where possible and appropriate, especially during historically critical periods of high virus pressure.
- TYLCV tolerant tomato cultivars that are available include Charger, Rally, Tribute (Sakata), RidgeRunner, SevenTY III (Syngenta), Security 28 and 8845 (Harris Moran). Check the Vegetable Production Handbook for Florida for new TYLCV-tolerant varieties.
- Continue whitefly control even on TYLCV resistant cultivars which can still host the virus and are subject to tomato irregular ripening.
- Use UV reflective (metalized) mulch on plantings that are historically most commonly infested with whiteflies and infected with TYLCV.

- **Post-planting Practices.**

- Scout for whitefly adults and apply a short reentry interval insecticide if necessary prior to cultural manipulations such as pruning, tying, etc.
- Rogue tomato plants with symptoms of TYLCV at least until second tie.
- Plants should be treated for whitefly adults prior to roguing and, if nymphs are present, should be removed from the field, preferably in plastic bags, left in the sun and then disposed of as far from production fields as possible.
- Manage weeds within crops to minimize interference with spraying

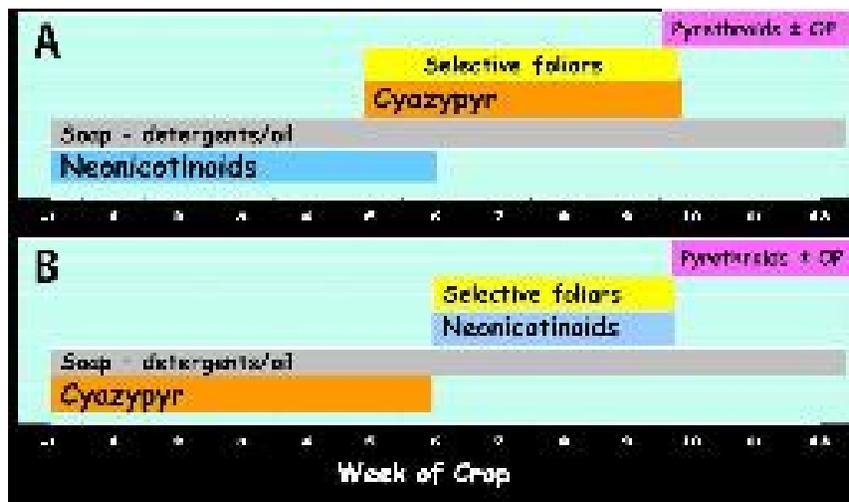
- **Insecticidal Control Practices**

- Delay resistance to neonicotinoid and other insecticides by using a proper whitefly insecticide program. Follow the label!
- Apply a neonicotinoid one time to transplants in the production facility, 7-10 days before shipping. Use products in other chemical classes, including Fulfill, soap, etc. before this time.
- Use a soil application containing a neonicotinoid (group 4A) or cyantraniliprole (group 28) no more than once each during a single crop (Figure 4).
- Do not repeat with a foliar application of either mode of action. If only foliar applications of these insecticides are to be made, than restrict each mode of action to a single 6-week period within any crop cycle.

- As control of whitefly nymphs diminishes following soil applications, use rotations of insecticides of other chemical classes as needed based on scouting recommendations. (Figure 4).
- Consult the Cooperative Extension Service for the latest recommendations.
- Use selective rather than broad-spectrum control products where possible to conserve natural enemies and enhance biological control.
- Do not apply insecticides on weeds on field perimeters. These could kill whitefly natural enemies, and thus interfere with biological control, as well as select for biotype Q, if present, which is more resistant to many insecticides than biotype B.

- **Do Unto Your Neighbor, as You Would Have Them Do unto You**

- Look out for your neighbor's welfare. This may be a strange or unwelcome concept in the highly competitive vegetable industry but it is in the grower's best interest to do just that. Remember that everybody will feel the pain should the whiteflies develop full-blown resistance to insecticides, especially the neonicotinoids!
- Know what is going on in the neighbor's fields.
- Growers should try to keep abreast of operations in upwind fields, especially harvesting and crop destruction, which both disturb the foliage and cause whitefly adults to fly



The above figure depicts two possible programs for insecticidal whitefly control: A: neonicotinoid drench just prior to and directly after planting followed later in the crop cycle by a soil application of cyantraniliprole (cyazypyr) or by foliar applications of selective products mid-season, finishing with one or more pyrethroid sprays with or without an organophosphate (malathion) at the end of the season if necessary to reduce whitefly migration to other crops. Products such as soaps, oils or biologicals could be used any time as needed. B. Reversing the order of cyazypyr and neonicotinoid soil applications.

Efficacy indications generated by Florida researchers for insecticides labeled for use against whitefly on tomato in Florida and other relevant information are summarized and tabulated in Tables 1 and 2 by mode of action to facilitate planning a rotation program. IRAC (Insecticide Resistance Action Committee) provides additional

information on general resistance management and on resistance classification of specific insecticides at its website: <http://www.irc-online.org>.

Table 1.

MOA <sup>^</sup>	Active Ingredient	Trade Name	REI (hours)	Days to Harvest	Other pests controlled
4A	Clothianidin	Belay 50 WDG	12	21	Aphids, Colorado potato beetle
4A	Dinotefuran	Venom, Scorpion	12	21	
4A	Imidacloprid	Various	12	21	
4D	Flupyrifurone	Sivanto	4	45	
4A	Thiamethoxam	Platinum 75 SG	12	30	
28	Cyantraniliprole	Verimark	4	1	Worms, leafminers
4A, 28	Thiamethoxam + Chlorantraniliprole	Durivo	12	30	Aphids, worms, leafminers, stinkbugs
28	Chlorantraniliprole <sup>1</sup>	Coragen	4	1	Worms, leafminers
<sup>^</sup> <a href="http://www.irc-online.org">http://www.irc-online.org</a>					

Table 2.

Mode of action (MOA) active ingredient, trade name, minimum reentry interval (REI) and days to harvest (PHI) and other pest controlled by insecticides labeled for foliar application to tomato for control of sweetpotato whitefly in Florida.

Foliar					
MOA <sup>^</sup>	Active Ingredient	Trade Name	REI (hours)	Days to Harvest	Other pests controlled
1A	Methomyl <sup>1</sup>	*Lannate LV, SP	48	1	Worms, aphids, stinkbugs
1B	Malathion <sup>2</sup>	Malathion 5 EC Malathion 57 % Malathion 8	12	1	
3A	Beta-Cyfluthrin <sup>3</sup>	*Baythroid XL	12	0	Worms, stinkbugs
3A	Bifenthrin	*Brigade 2EC (bifenthrin)	12	1	
3A	Bifenthrin & Zeta-Cypermethrin <sup>3</sup>	*Hero	12	1	
3A	Esfenvalerate <sup>3</sup>	*Asana XL (0.66EC)	12	1	
3A	Gamma-Cyhalothrin <sup>3</sup>	Declare	24	5	
3A	Lambda-Cyhalothrin <sup>3</sup>	Warrior II, Karate with Zeon*	24	1	
3A	Pyrethrins <sup>3</sup>	Pyganic Crop Protection EC 5.0	12	0	
3A	Zeta-Cypermethrin <sup>3</sup>	*Mustang	12	1	

4A	Acetamiprid	Assail 70WP, Assail 30 SG	12	7	Aphids, Colorado potato beetle
4A	Clothianidin	Belay 50 WDG	12	7	
4A	Dinotefuran	Venom, Scorpion	12	1	
4A	Imidacloprid	Various	12	0	
4A	Thiamethoxam	Actara	12	0	
4C	Sulfoxaflor	Closer SC	12	1	
4D	Flupyradifurone	Sivanto	12	1	
7C	Pyriproxyfen <sup>4</sup>	Knack IGR	12	7	
9C	Flonicamid <sup>1</sup>	Beleaf 50 SG 2(ee)	12	0	Aphids
9B	Pymetrozine	Fulfill	12	0	Aphids
15	Novaluron <sup>1</sup>	Rimon 0.83EC	12	1	Worms, leafminers, thrips
16	Buprofezin <sup>4</sup>	Courier 40SC	12	1	
21A	Fenpyroximate	Portal	12	1	Spider mites
23	Spirotetramat <sup>4</sup>	Movento	24	1	Aphids, russet mite,
23	Spiromesifen <sup>4</sup>	Oberon 2SC	12	1	Spider mites
28	Cyantraniliprole	Exirel	12	1	Worms, aphids, leafminers
28	Chlorantraniliprole <sup>1</sup>	Coragen	4	1	Worms, leafminers
3A + 4A	Beta-Cyfluthrin + Imidacloprid	*Leverage 360	12	0	Worms aphids stinkbugs
3A + 4A	Lambda-Cyhalothrin + Thiamethoxam	Endigo *	24	5	
3A + 6	Bifenthrin + Abamectin <sup>1</sup>	*Athena	12	7	Worms, pinworm spider mites
3A + 28	Lambda-Cyhalothrin + Chlorantraniliprole <sup>1</sup>	*Voliam Xpress	24	5	Worms leafminers, stinkbugs
4A + 28	Thiamethoxam + Chlorantraniliprole	Voliam Flexi	12	1	Worms aphids stinkbugs leafminers
16 + 28	Flubendiamide + Buprofezin <sup>4</sup>	Vetica	12	1	
un	Azadirachtin <sup>1</sup>	Aza-Direct, Azatin XI, Neemix 4.5	4	0	
un	<i>Chromobacterium subsugae</i> <sup>1</sup>	Grandevo	4	0	
un	<i>Isaria fumosorosea</i> Apopka Strain 97 <sup>1</sup>	PFR-97	4	0	
un	Synthetic extract of <i>Chenopodium ambrosioides</i> <sup>1</sup>	Requiem 25EC	4	0	
un	<i>Beauveria bassiana</i> Strain GHA <sup>1</sup>	Mycotrol O	4	0	
un.	<i>Metarhizium anisopliae</i> Strain F52 <sup>1</sup>	MET52 EC	0	0	
un.	Soap, Insecticidal	M-Pede 49% EC	12	0	Aphids, mites
un	Horticultural Mineral Oil	Saf-T-Side, JMS Stylet-Oil, Pure Spray Green	4	0	Aphids, mites

\* Restricted use insecticide.

<sup>1</sup><http://www.illac-online.org>.

<sup>2</sup>Suppression only.

<sup>3</sup>Labelled for tomato but not whiteflies. Effective only if tank-mixed with a pyrethroid

<sup>4</sup>More effective if tank-mixed with Malathion

<sup>5</sup>Nymphs only

**Consult UF/IFAS recommendations for currently labeled insecticides for whitefly control in Florida vegetables.**

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

### **Worms**

**Around Palm Beach County, worm pressure is moderate with mostly beet armyworms being reported in pepper and tomato.**

**In the Glades, growers are reporting some issues with cutworms and wireworms in corn and beans.**

**Around Southwest Florida, reports indicate worm number seem to be abnormally low for this time of year.** Scouts are finding a few beet armyworms, loopers and southern armyworms as well as a few melonworms.

**Respondents in the Manatee/ Hillsborough area report that worm pressure has been steady with egg masses showing up every couple of weeks.** Scouts are finding mostly beet armyworms and loopers so far.

### **Leafminer**

**A few leafminers are showing up around South Florida with some stippling and few mines reported in cucurbits and tomatoes.** In all cases, they remain well below treatable thresholds and parasites appear to be keeping them in check.

### **Mole Crickets**

**Around Southwest Florida scouts report finding some transplants being cut off by mole crickets.**

### **Oriental Fruit Fly**

**A single male of the Oriental fruit fly, *Bactrocera dorsalis* was captured in a methyl eugenol-baited fruit fly detection trap in Miami (Miami-Dade Co.) on 17 August 2015.** This is the first appearance of Oriental fruit fly in Florida since 2014. Since then 159 flies have been captured in traps leading Commissioner of Agriculture Adam Putnam to declare a state of agricultural emergency.

**The Oriental fruit fly is considered one of the most serious of the world's fruit fly pests due to its potential economic harm.** It attacks more than 430 different fruits, vegetables and nuts, including: avocado, mango, mamey, loquat, lychee, longan, dragon fruit, guava, papaya, sapodilla, banana and annona. The fruit flies lay their eggs in host fruits and vegetables.

**The thorax of adult flies is typically mostly dark with two prominent, yellow stripes dorsally, a yellow scutellum, and yellow areas laterally; the abdomen has a prominent, 'T'-shaped, black pattern on a light brown background, plus variable other dark markings laterally.** The wings are clear, except for a thin,

continuous brown band extending from the stigma to the wing tip, and a thin, oblique, band of brown overlapping the posterior cubital cell. The face has a conspicuous black spot below each antenna.

See more at <http://freshfromflorida.s3.amazonaws.com/Media%2FFiles%2FPlant-Industry-Files%2FPest-Alerts%2FPEST+ALERT+Oriental+Fruit+Fly+2015.pdf>

## **Diseases**

**Growers and scouts report that disease has been relatively low given recent heavy rains.**

### **Bacterial Spot**

**Bacterial spot is around on both tomato and pepper around Southwest Florida but incidence and occurrence is very patchy.** Scouts also report finding some bacterial spot on transplants coming from transplant suppliers.

**Respondents in Manatee County indicate that bacterial spot is surprisingly low considering all the rain some areas have received.**

**Bacterial spot remains low in Palm Beach County and seems to be coming in on transplants.**

**Dr. Gary Vallad, Plant Pathologist at the Gulf Coast Research and Education reports that many forms of copper, which historically has been used to fight bacterial spot in tomatoes, appear to have become ineffective and at times may actually be detrimental.**

**After conducting four trials over two seasons at CGREC, he says would not recommend using most forms of copper to control the disease in tomatoes.**

**“My advice would be no (copper) for bacterial spot,” he says. “For other diseases, particularly with speck, we haven’t sorted that out yet because they have resistance issues with speck as well.**

**He says he based his recommendation against using copper for bacterial spot control on two factors. Copper really only suppressed the disease years ago and never really did provide what could be considered effective control. That was before the numerous strains found in the state became resistant to copper.**

**During 2011-12, Vallad and colleagues collected 175 samples of bacterial spot in Florida and south Georgia and assayed them for resistance. Of those, 133 came from fields and 43 from greenhouses.**

**All but one was resistant to copper, and populations had also shifted during the past several seasons to the more aggressive T4 strain from the milder T3 strain.**

**The concern is the T4 strain may cause aggressive spotting on the fruit, depending on weather conditions.**

**The results also mirror those obtained in 2006-07, when 377 samples were collected by a group led by Diana Horvath. All of those samples showed resistance to copper.**

**Vallad’s trials were conducted in 2012-13 at GCREC and involved 20 different treatments and four replicates apiece. One of the treatments was an untreated check.**

**What the trial revealed was when Actigard, an SAR—or systemic activated response—material was used alone or in combination with non-copper products, it produced the best results.**

**And when copper was added to any of the treatments, more fruit ended up with lesions than even the untreated check.**

**“Anything that had copper did worse than anything that had Actigard,” he said. “Whenever you had copper, you had significantly reduced yields compared to when you left copper out.”**

**Two antibiotics, both of which are not registered for use on field-grown tomatoes, provided good control of the bacterial disease.** But Vallad says they may never be approved because of concerns about antibiotic resistance in humans.

**Streptomycin is labeled for use in greenhouse production.** But resistance already is a concern as 86 percent of bacterial spot samples collected from transplant houses were tolerant to the antibiotic compared with only 14 percent of samples collected from the field.

**As part of the trial, Vallad calculated costs for each treatment.** The cost of a program that used eight sprays of copper-mancozeb was comparable with one using weekly Actigard treatments, \$113 per acre versus \$114 per acre, respectively. See: <http://www.thegrower.com/news/274752851.html?view=all#sthash.qq66ecsy.dpuf>

### **Pythium**

**Excess moisture and heat have contributed to some pythium problems in several locations around South Florida.** Respondents report a 3-5% loss in some pepper plantings.

**The combination of abundant soil moisture and elevated temperatures conspire to make the fall planting season a prime time for vegetable growers in Florida to encounter problems with Pythium spp. on a variety of vegetables.** Pythium typically attacks roots causing damping off, seedling blights, root rots and wilting of affected crops. In some instances, Pythium may affect the above ground portions of crops.

**A number of chemical treatments are available for the control of damping off.** Fungicidal drenches such as Previcur Flex (Propamocarb) and Ridomil Gold (mefenoxam) are effective for the suppression of seedling blights and root rots if applied before infection occurs. Resistance to Ridomil has been reported in several crops/places in the US so growers should rotate chemistries as a good resistance management practice.

**Several biological control agents, including actinomycetes and other bacteria and fungi, are available to organic and conventional growers for suppression of Pythium and other soil borne pathogens.**

**Some soils are naturally suppressive to diseases caused by Pythium or may become suppressive by increasing organic matter or manipulating soil pH.** Incorporation of cover crops prior to planting may support competing organisms in the field, but in some cases may result in increased populations of the pathogen. Sunn hemp has been implicated in this regard.

### **Southern Blight**

**Southern blight is causing some issues around South Florida.** 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.**

### **Phytophthora**

**Phytophthora has been reported in some young peppers in a few East Coast location where the disease commonly occurs.** There is some speculation that fumigation issues may play a role in some of these finds as well as in some of the southern blight being seen around South Florida.

### **Basil Downy Mildew**

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

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

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

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

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

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

**Recently Revus received a label for use 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.

### **Tomato Chlorotic Spot Virus**

**Around Southwest Florida, scouts report finding confirmed TCSV infected plants from several transplant houses with approximately 100 plants being found this fall.**

**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 trial conducted in Miami Dade County and elsewhere.**

## **News You Can Use**

### **Commissioner Adam Putnam Declares State of Agricultural Emergency for Oriental Fruit Fly Infestation - Sep 15, 2015**

MIAMI, Fla.—Florida Commissioner of Agriculture Adam H. Putnam today declared a state of agricultural emergency due to the Oriental Fruit Fly infestation in Miami-Dade County. The Oriental Fruit Fly is considered one of the most serious of the world's fruit fly pests due to its potential economic harm. It attacks more than 430 different fruits, vegetables and nuts, including: avocado, mango, mamey, loquat, lychee, longon, dragon fruit, guava, papaya, sapodilla, banana and annona. The fruit flies lay their eggs in host fruits and vegetables. Since the first detection of the Oriental Fruit Fly on Aug. 26, 2015 in Miami-Dade County, a total of 158 flies have been detected, specifically in the Redland area (156), Kendall (1) and Miami (1).

“The Oriental Fruit Fly is one of the world's most destructive pests and poses a significant threat to Florida's \$123 billion agriculture industry and the two million jobs it supports. Miami-Dade County's agriculture industry is a \$1.6 billion industry, and we will use every weapon in our arsenal that's necessary to eradicate this pest and protect Florida agriculture and our economy,” stated Commissioner of Agriculture Adam H. Putnam.

The infestation threatens the area's ability to produce the fruit and vegetables the nation has grown to rely on during the winter months, the region's overall economic health and the thousands of jobs that rely on this industry. Miami-Dade County is the state's leader in the production of tropical vegetables, tropical fruit and ornamental nurseries, and overall agricultural production generates more than \$1.6 billion in annual economic impact and supports more than 11,000 jobs.

The department, along with the U.S. Department of Agriculture, has been aggressively working to eradicate this pest. Efforts include:

- Assisting industry with the requirements of their compliance agreements;

- Quarantining an 85-square-mile area around the core areas where detections have been made in order to prevent the spread of the fly;
- Treating a 1.5-square-mile area around each fly detection. This treatment, which is conducted by the department, consists of attracting male flies to bait which consists of an attractant, an insecticide, and a thickening agent. The flies are killed when they feed on the bait. The bait mixture is applied weekly to upper portions of telephone and utility poles. The application will continue for at least two life cycles of the fly after each find, which is approximately 60 days;
- Removal of fruit from host trees — while leaving the trees — within 200 meters of a larval or mature female fruit fly find; and
- Ground spraying with GF120, a pesticide certified for use in organic farming. Spinosad (GF-120 NF Naturalyte™ Fruit Fly Bait) is an insecticide that is extracted from the naturally occurring soil microbe, *Saccharopolyspora spinosa*. Spinosad is in common use by organic growers and was granted a “Green Chemistry” award by the U.S. Environmental Protection Agency, which classifies it as “reduced risk” because of its good environmental profile.

It is important to note that all appropriate protocols are in place and that the fruits and vegetables introduced into the marketplace from this area are certified for movement and safe for consumption by the public.

**Frequently Asked Questions and Answers for Oriental Fruit Fly Eradication Program for PRODUCERS, GROWERS, NURSERIES and PACKING HOUSES** – go to [http://www.freshfromflorida.com/content/download/62631/1423820/Frequently\\_Ask\\_Questions\\_for\\_OFF\\_Erad\\_Prog\\_9-11-2015\\_for\\_IFAS.pdf](http://www.freshfromflorida.com/content/download/62631/1423820/Frequently_Ask_Questions_for_OFF_Erad_Prog_9-11-2015_for_IFAS.pdf)

**Combined Treatment, Quarantine and Survey Zone - Maps subject to update, please check for current map and fly find locations. Map update 9/12/15**  
[http://www.freshfromflorida.com/content/download/62633/1423830/OFF\\_REDLAND\\_COMBINED\\_TREATMENT\\_QUARANTINE\\_AND\\_SURVEY\\_ZONES\\_8X11.pdf](http://www.freshfromflorida.com/content/download/62633/1423830/OFF_REDLAND_COMBINED_TREATMENT_QUARANTINE_AND_SURVEY_ZONES_8X11.pdf)

### **Oriental Fruit Fly Host List**

<http://freshfromflorida.s3.amazonaws.com/Media%2FFiles%2FPlant-Industry-Files%2FPest-Alerts%2FOriental-Fruit-Fly%2FOFF+Host+List+Comparison+edited+common+name.pdf>

Much more information for agricultural interests can be found at:

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

### **Defense Partners with USDA to Get More Veterans Farming**

By Allison Floyd  
 Growing America  
 September 15th, 2015

The federal government agencies in charge of defense and agriculture have forged a new partnership to make it easier for military veterans to find a second career in farming. The U.S. Departments of Agriculture and Defense announced on Monday that they will work together to make sure more training and opportunity is available for military personnel who are leaving the field battle and looking for another type of field.

Deputy Secretary of the USDA, Krysta Harden, joined with Susan Kelly, director of the Department of Defense's Transition to Veterans Program Office, to announce that agriculture will be added to the career

training and counseling programs service members receive as they transition out of the military. Some 200,000 men and women each year transition from the military to civilian life and must find their next career. “Rural America disproportionately sends its sons and daughters to serve in the military. When service members return home, we want them to know that rural America has a place for them – no matter where they're from,” said Harden. “This expanded collaboration between USDA and DOD will help to ensure that returning service members know that there are a wide variety of loans, grants, training and technical assistance for veterans who are passionate about a career in agriculture, no matter their experience level.”

Advocates for getting veterans to work in agriculture praised the plan.

“We’ve been urging USDA to take this step for some time,” said Gary Matteson, a Farm Credit executive who sits on the board for the Farmer Veteran Coalition, a nonprofit that supports veterans who become farmers.

In 2014, the Farmer Veteran Coalition brought together a panel of government agencies that had never talked together before, Matteson said. Representatives from the USDA, the Department of Defense, the Veterans Administration, the Department of Labor and the Small Business Administration all were on a panel for the FVC’s convention.

“The first time they ever had talked was at our conference. Can we take a little bit of credit for this? Yes, and we are happy for it,” said Matteson, who also serves as the vice president of Young, Beginning and Small Farmer Programs for Farm Credit.

The agreement between USDA and DoD puts agriculture among the fields that the military will present to veterans as second careers.

“Our transitioning service members leave the military with a variety of essential skills – including leadership and discipline – that could be directly applied to a career in agriculture,” said Kelly. “For those members who are considering farming or ranching as a post-service career, I encourage them to learn more about the opportunities, preferences, and incentives offered by the USDA.”

While many veterans have an interest in farming, getting practical knowledge to get started isn’t always easy.

The Farmer Veteran Coalition will continue to work toward educating young and veteran farmers.

The group is starting a series funded by FSA in the upper Midwest and Mid-Atlantic States soon. Four-hour training sessions will cover basic financial skills and cash flow analysis,

“This is very basic, but useful cost-benefit analysis, such as weighing whether it’s more cost-effective to buy a tractor or an irrigation system for your particular farm,” Matteson said. “We don’t know what everybody needs, but if we can give them the road map.”

Veterans also can visit [www.usda.gov/veterans](http://www.usda.gov/veterans), a website designed specifically to educate them about USDA programs.

Since 2009, USDA has provided \$438 million in farm loans to help more than 6,482 veterans purchase farmland, buy equipment and make repairs and upgrades. Our microloans, which offer smaller amounts of support to meet the needs of small- or niche-type farm operations, have also grown in popularity among veterans. Since it was launched in January 2013, USDA's microloan program has provided more than \$22.6 million in support to help 1,083 veterans grow their farming businesses.

[http://growinggeorgia.com/features/2015/09/defense-partners-usda-get-more-veterans-farming/?utm\\_source=Growing+Georgia&utm\\_campaign=3acc0612c6-growinggeorgia-daily\\_newsletter&utm\\_medium=email&utm\\_term=0\\_4643f190f7-3acc0612c6-296638929](http://growinggeorgia.com/features/2015/09/defense-partners-usda-get-more-veterans-farming/?utm_source=Growing+Georgia&utm_campaign=3acc0612c6-growinggeorgia-daily_newsletter&utm_medium=email&utm_term=0_4643f190f7-3acc0612c6-296638929)

## **Syngenta adds Orondis® fungicide to vegetable, potato and tobacco portfolio**

- Outstanding control of soil and foliar diseases caused by Oomycete fungi
- New mode of action with no cross resistance to other products
- Highly effective at lower active ingredient use rates than competitive fungicides

GREENSBORO, N.C., USA, September 14, 2015 – Syngenta announced that Orondis® fungicide is now approved for use by the U.S. Environmental Protection Agency (EPA) as the first fungicide in the FRAC group U15. Pending state registrations, Orondis is expected to be available for the 2016 season.

Orondis contains the active ingredient oxathiapiprolin and offers a new mode of action for outstanding control of economically important soil and foliar diseases caused by Oomycete fungi in vegetables, potatoes and tobacco. Syngenta secured a license to develop and market products containing oxathiapiprolin from DuPont in 2013 and has exclusive rights in North America for foliar and soil use on vegetables, potatoes, tobacco and other specialty crops.

“Orondis is an excellent foundation fungicide and offers growers a new tool in their disease control programs,” said Bernd Druebbisch, fungicide product lead, Syngenta. “Its new mode of action complements and enhances our diverse fungicide portfolio.”

Orondis will be marketed as three multi-packs of separately registered products to customers:

- Orondis and Ridomil Gold® fungicide for control of soil-borne Oomycete diseases in vegetables and tobacco
- Orondis and Bravo® fungicide for control of downy mildew and late blight in potatoes and vegetables
- Orondis and Revus® fungicide for control of downy mildew and late blight in leafy vegetables (lettuce and spinach), potatoes, tobacco and other vegetables

Premix products will be developed combining these products and, when approved by the EPA and states, will be sold under the following brand names: Orondis® Gold fungicide (Orondis and Ridomil Gold); Orondis® Opti fungicide (Orondis and Bravo); and Orondis® Ultra fungicide (Orondis and Revus).

## **Tips to Avoid Heat Related Illness**

It is hot out there - remember to take care of yourself and your workers in hot weather and avoid heat related illness.

Early fall in South Florida can be overwhelmingly hot, especially when performing strenuous work like laying plastic, planting, staking and tying. Heat stress, heat exhaustion, and heat stroke are illnesses that can overcome you when your body is unable to cool itself.

Heat stress hits quickly, and it may be deadly.

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

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

Never leave children or pets in a parked car. The temperature inside cars can rise to 135°F in less than ten minutes, which can kill children or pets. If you see a child or pet left unattended in a parked car, you should call 911.

Slow down. Strenuous activities should be reduced, eliminated, or rescheduled to the coolest time of the day.

At-risk Individuals should stay in the coolest available place, not necessarily indoors.

Clothing is important. Dress for summer. Use common sense and wear light colors, a loose weave, long sleeves and a hat. Lightweight, light-colored clothing reflects heat and sunlight and helps your body maintain normal temperatures.

Put less fuel on your inner fires. Foods that increase metabolic heat production--such as proteins--also increase water loss.

Drink plenty of water and other nonalcoholic fluids. Your body needs water to keep cool.

Drink plenty of fluids even if you don't feel thirsty.

People who may be at most risk:

(1) have epilepsy or heart, kidney, or liver disease;

(2) are on fluid-restrictive diets; or

(3) have a problem with fluid retention, should consult a physician before increasing their consumption of fluids.

Do not drink alcoholic beverages. Alcohol dehydrates you.

Do not take salt tablets unless specified by a physician. People on salt-restrictive diets should consult a physician before increasing their salt intake.

Spend more time in air-conditioned places. Air conditioning in homes and other buildings markedly reduces danger from the heat. If you cannot afford an air conditioner, spending some time each day in an air-conditioned environment (during hot weather) can offer some protection.

Don't get too much sun. Sunburn makes it harder for you to cool off.

**REMEMBER TO DRINK BEFORE YOU FEEL THIRSTY!**

### **Factors Leading to Heat Stress:**

- High temperature and humidity
- Direct sun or heat
- Limited air movement
- Physical exertion
- Poor physical condition
- Some medicines
- Inadequate tolerance for hot workplaces

### **Symptoms of Heat-related Illnesses**

**Heat Cramps** - Rest in a cool place, drink sports drink, and stretch the cramped muscle.

**Heat Exhaustion** - Hot and sweaty.

Headaches, dizziness, lightheadedness, or fainting

Weakness and moist skin

Mood changes such as irritability or confusion  
Upset stomach or vomiting

Move the victim to a cool place, give the person sports drinks, lay them down and elevate their legs, remove excess clothing, sponge with cool water and fan the person. If there's no improvement within half an hour, call 911.

**Heat Stroke** - Clammy and dry.  
Dry, hot skin with no sweating  
Mental confusion or loss of consciousness  
Seizures or fits

This is The Big One! This one can, and does, kill. CALL 911 IMMEDIATELY even if the victim seems to be improving; move the victim to a cool place, remove excess clothing, keep the head and shoulders slightly elevated, fan the victim and spray with water, place ice packs under the arms, by the groin and sides of the neck where the big veins are. Ice will help cool the blood.

### **Preventing Heat Stress**

- Know the signs and symptoms of heat-related illnesses, and monitor yourself and your coworkers.
- Block out direct sun or other heat sources.
- Use cooling fans and air-conditioning; rest regularly.
- Drink lots of water--about one cup every fifteen minutes.
- Wear lightweight, light-colored, loose-fitting clothes.
- Avoid alcohol, caffeinated drinks, and heavy meals.

### **How to Treat Victims of Heat-related Illness**

Call 911 (or local emergency number) at once.  
Move the affected person to a cool, shaded area.  
Loosen or remove heavy clothing on victim.  
Provide cool drinking water to victim.  
Fan and mist the person with water.

### **Up Coming Meetings**

#### **Food safety: What's your risk?**

- |                         |   |
|-------------------------|---|
| <b>October 20, 2015</b> | <b>UF/IFAS Southwest Research and Education Center, Immokalee</b><br><a href="https://www.eventbrite.com/e/food-safety-what-is-my-risk-tickets-18559541087">https://www.eventbrite.com/e/food-safety-what-is-my-risk-tickets-18559541087</a>  |
| <b>October 21, 2015</b> | <b>UF/IFAS Everglades Research and Education Center, Belle Glade</b><br><a href="http://www.eventbrite.com/e/food-safety-what-is-my-risk-tickets-18629860414">http://www.eventbrite.com/e/food-safety-what-is-my-risk-tickets-18629860414</a> |
| <b>October 28, 2015</b> | <b>UF/IFAS Gulf Coast Research and Education Center, Wimauma</b><br><a href="https://www.eventbrite.com/e/food-safety-what-is-my-risk-tickets-18630296719">https://www.eventbrite.com/e/food-safety-what-is-my-risk-tickets-18630296719</a>   |

Workshop to provide tools to assess, reduce risk.

With the rollout of sweeping new federal food safety rules under the Food Safety Modernization Act, it's more important than ever to understand risk of microbial contamination and to take steps to reduce that risk. The Florida Fruit & Vegetable Association presents "Food Safety: What is My Risk?" – A one-day workshop designed to equip specialty crop producers and handlers with practical information, strategies and tools to assess and mitigate risk in their operations.

Topics will include:

- Overview of microbes
- How to assess risk for farming and packing
- Environmental monitoring
- Creating a food safety culture
- Risk assessment exercise

The workshop will be held in three convenient locations. Registration is \$30 for FFVA producer and trade associate members and \$55 for non-members. Advanced registration is required, and lunch will be provided. Attendees will receive informative materials and checklists upon completion.

**REGISTER TODAY:** Click on a link below to reserve a seat at the location of your choice.

Please forward this to anyone who you think would be interested; the event is not limited to FFVA membership.

Contact FFVA at 321-214-5240 for more details or if you have questions.

**October 22 & 23, 2015      HACCP for Florida Fresh Fruit and Vegetable Packinghouses**

UF/IFAS Southwest Florida Research and Education Center  
2685 State Road 29 North  
Immokalee, FL 34142

Sponsored by UF/IFAS Food Science and Human Nutrition Department and the UF/IFAS Citrus Research and Education Center

**ABOUT THE PROGRAM**

Food Safety is critical to the fresh produce industry. In addition to being a major public health issue, food safety issues have had an adverse economic impact on growers, packers, processors and shippers of fresh produce.

In addition to a discussion of current and proposed legislation, the latest research on produce safety and Good Manufacturing Practice (GMPs), the workshop will cover the elements of putting together a comprehensive food safety program.

The hands on course will teach participants how to develop and document a food safety management program based on the principles of Hazard Analysis and Critical Control Point (HACCP) for their specific operations.

Breakout sessions will teach participants how to identify and prevent food safety hazards, monitor hazard reduction procedures, develop control measures and methods to document and verify the results of their efforts.

The workshop, accredited by the International HACCP Alliance, is targeted to produce packers, to assist in the development and customization of food safety programs for their facilities, using a HACCP-based approach.

## PACKINGHOUSE HACCP PROGRAM AGENDA

Thursday, October 22nd

8:00 Registration

8:30 Welcome

Introduction to Food Safety and the HACCP System

Hazards

Prerequisites to HACCP – GAPs, GMPs, SOPs, SSOPs

Hazard Analysis (Principle 1)

Identification of Critical Control Points (Principle 2)

Establishment of Critical Limits

(Principle 3)

Critical Control Point Monitoring (Principle 4)

5:00 Adjourn

Friday, October 23rd

8:00 Coffee

8:30 Review

Corrective Actions (Principle 5)

Verification (Principle 6)

Recordkeeping (Principle 7)

Regulations – Food Safety Modernization Act

HACCP Review

HACCP Exam

5:00 Adjourn

### INSTRUCTORS:

Michelle Danyluk Associate Professor, UF/IFAS CREC

Renée Goodrich Schneider Professor, UF/IFAS FSHN

Keith Schneider Professor, UF/IFAS FSHN

Angela Valadez Produce Food Safety Coordinator, Corporate Quality Assurance, Publix Super Markets, Inc.

Kiley Harper-Larsen Owner and Lead Consultant, the Ag Safety Lady

### REGISTRATION

The fee for the course is \$400 for industry participants; additional participants from one facility/farm may register for a fee of \$100.

A reduced fee of \$250 is available for government/academic employees who make prior arrangements.

Registration will be limited to the first 36 registrants.

Registration includes the course materials, two lunches, coffee breaks and certificate of completion.

Participation for the entire 2 days is required for the certificate.

Registration is also available online at: <https://packinghousehaccp1015.eventbrite.com>

**October 27, 2015**

**Fundamentals of Disease Diagnostics Workshop 10 AM - Noon**

UF/IFAS Southwest Florida Research and Education Center  
2685 State Road 29 North  
Immokalee, FL 34142

**Fundamentals of Disease Diagnostics Workshop**

- Introduction- Biotic vs abiotic disorders
- Types of Plant pathogens
- Spatial distribution and other field indicators of disease
- Methods for diagnosis
- Molecular tools for confirming unknown pathogens
- Interpreting a disease diagnosis
- Basics of disease management

Visit to the Plant Diagnostic Clinic to observe the processing a plant sample

More details and registration information soon.

**October 28, 2015**

**Fall Lettuce Advisory Committee Meeting**

**12 PM**

UF/IFAS Everglades Research and Education Center  
3200 East Palm Beach Road  
Belle Glade, FL 33430.

Lunch will start at 12pm and is sponsored by DuPont and Syngenta.

The meeting will start approximately 12:15pm. An agenda will follow shortly and CEUs will be offered.

**Websites**

**National Education Center for Agricultural Safety** - webinars and for more information and public service announcements related to farm safety. Go to

<http://www.necasag.org/aboutneacas/nationalfarmsafetyandhealthweek2015/>

**OSHA's Agricultural Operations** page at <https://www.osha.gov/dsg/topics/agriculturaloperations/index.html>

**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>

**Welcome back and wishing you all the best for a profitable 2015 -2016 Season**

**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.

*Gene McAvoy*

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