



SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE

September 24, 2018

Tropical Storm Gordon moved through the area quickly with few problems. In most areas, fields were wet early and are now drying out a bit as we move into the planting season. The Homestead area has been exception however where heavy rains last week caused some delays in land prep and planting.

Temperatures have been in the mid 90's in the days and 70's at night. Feel-like temperatures in the 100's and high humidity a number of days hampered workers.

FAWN Weather Summary

Date	Air Temp °F		Rainfall (Inches)	Ave Relative Humidity (Percent)	ET (Inches/Day) (Average)
	Min	Max			
Balm					
9/1 – 9/23/2018	70.23	94.55	3.38	85	0.14
Belle Glade					
9/1 – 9/23/2018	68.97	95.23	4.58	89	0.14
Clewiston					
9/1 – 9/23/2018	70.03	95.14	2.03	82	0.15
Ft Lauderdale					
9/1 – 9/23/2018	72.28	92.43	6.64	82	0.14
Homestead					
9/1 – 9/23/2018	70.86	91.71	9.87	86	0.14
Immokalee					
9/1 – 9/23/2018	71.01	97.09	4.87	88	0.15
Okeechobee					
9/1 – 9/23/2018	68.77	96.13	3.13	88	0.15
Wellington					
9/1 – 9/23/2018	70.83	99.43	2.60	85	0.14

“Remember, when in doubt - scout.”

Crops are looking good for the most part with few issues being reported although some older plantings in the Manatee Ruskin area are looking a bit rough from damage to foliage from rain with lots of holes and split leaves.

The National Weather Service forecast through Thursday indicates that stagnant pattern is expected to ensue Tuesday through late week, as high pressure near Bermuda begins to elongate and expand towards the Carolinas. Clockwise motion around the high should allow for persistent easterly flow across South Florida. Typical of late summer and early autumn, rounds of showers and the occasional thunderstorm will move over east coast metro from the Atlantic during the nights and early mornings. Convection will be mainly sea breeze driven, developing inland from the east coast and drift westward during the late afternoons and evenings. Through the period, maximum temperatures are forecast in the upper 80s along the coastal locations and lower 90s inland. 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 the Manatee/Hillsborough are reporting mostly low whitefly pressure in tomato with some higher numbers being reported in eggplant. Growers are also reporting finding sporadic whiteflies in squash, melons and cantaloupe. Several growers note that reflective mulches appear to be doing a great job at keeping whiteflies at bay.

Respondents on the East Coast indicate that whiteflies are mostly non-existent with a few starting to show up in some eggplants.

Around SW Florida, whiteflies are patchy in occurrence in mostly low numbers.

While populations remain low, they can build up quickly, so growers should scout regularly to avoid being taken unawares later in the season. Preventative soil applications of either imidacloprid, thiamethoxam, dinotefuran, flupyradifurone or cyanatraniliprole should be used as normal in tomato and cucurbits.

Consider the use of metalized (UV reflective) mulch as an additional management practice for day-flying pests such as whiteflies, thrips, aphids, pepper weevil and even broad mites, the last of these which use flying insects to move around.

Table 1; Systemic insecticides applied to soil for whitefly control

Common name	Mode of Action	Trade Names	Rates
Imidacloprid	4A	Various	Check Label
Thiamethoxam	4A	Platinum 75 SG	1.66 - 3.67
	4A	Venom 70% Scorpion 35 SL Certador 10%	5 - 7.5 oz./ac 9 -1 0.5 fl oz./ac 32.5 - 47.5 fl oz./ac
Flurpyradifuron	4D	Sivanto 200 SL	21-28 fl oz./ac
Verimark	28	Verimark 18.7%	5-10 fl oz./ac

Efficacy Ratings for Insecticides and Miticides on Tomato

MOA	Active Ingredient	Whiteflies	Other pests controlled			
		Whiteflies	Southern Armyworm	Spider mites	Stinkbugs	Leafminer
4A	dinotefuran	E**			G	
4A	imidacloprid	E**				
4A	thiamethoxam	E**			G	
4D	flupyradifurone	E**				
23	spiromesifen	E†		E		
23	spirotetramat	E†		G		
7C	pyriproxyfen	E†				
28	cyantraniliprole	E**	E			E
1B	malathion	G*				
3A	beta-cyfluthrin	G*	F		G	
3A	bifenthrin	G*			G	
3A	esfenvalerate	G*	G			
3A	fenpropathrin	G*	F		F	
3A	lambda cyhalothrin	G*	F			
3A	permethrin	G*	G			
3A	zeta-cypermethrin	G*	G		F	
4A	acetamiprid	G				
9	pymetrozine	G†				
16	buprofezin	G†				
21 A	fenpyroxiamate	G		G		
4A	clothianidin	F**				
Unk.	horticultural oil	F†		G		
Unk.	Azadiractin	F†				
Unk.	Soap, insecticidal	F†				

* OP+Pyrethroids tank mix. † Effective primarily against nymphs ** Most Effective as a drench. Check labels before using any pesticide.

For more whitefly management tips – see:

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

Worms

Worms remain mostly light in most locations.

Around Immokalee, worms have been scarce with a few loopers and even few armyworms showing up around the area. A few melon worms have been reported in squash. One or two pinworms have been reported in tomato.

In the Manatee Ruskin area, worms are also present in low numbers with a few hornworms being reported in tomato.

On the East Coast, a few worms have been reported in tomato and eggplant.

Fall is worm time in south Florida.

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.

The different armyworms especially the younger instars are similar in color, size and markings and can be difficult to tell apart. The following information from the Florida Tomato Scouting Guide to help growers identify these different worms.

- **Beet armyworm:** (*Spodoptera exigua*) is generally less numerous than southern armyworm but is more difficult to control. The larva are generally green, mottled with white spots with black spot over the middle pair of true legs. 1 – 1.25 in. long at maturity. The adults have light brownish gray front wings with indistinct lines and are active at night. The eggs are laid in masses of 50 to 75 eggs covered with a felt like mass of scales from female's body. Eggs are generally found on underside of leaves and hatch in 3 days.
- **Southern armyworm:** (*Spodoptera eridania*) the larva are dark caterpillars with a yellowish brown head and a yellowish line along the side of body that is interrupted by a large dark spot on first abdominal segment. Approximately 2 in. long at maturity. Large larvae have 2 rows of dark triangles on dorsal surface. The young larvae feed on under surface of leaflets leaving upper epidermis intact to give a "window pane" appearance. The adult has the front wing streaked with cream, gray, light brown and black and hind wing white with some dark on margins. Large masses of 100 - 200 eggs covered with moth body scales are found on underside of leaves
- **The yellowstriped armyworm:** (*Spodoptera ornithogalli*), has a brownish head with a pale yellow inverted V on the upper front. It has distinct bright yellow lines on the top of the sides of the body. The yellowstriped armyworm occurs with both overall pale and dark colored bodies. It has two rows of black triangle shaped markings running the length of the body. Each row is offset from the center of the back. A thin white line runs lengthwise through each series of dark triangles. The yellowstriped armyworm is more common in north Florida.
- **Tomato fruitworm:** (*Helicoverpa zea*) larval color is variable, ranging from very dark to light green or pink with alternating longitudinal dark and light stripes. The skin is covered with short sharp micro spines. Adults are active at night, with a 1½ in. wing span. Males display a cream colored forewing with orange or olive cast, while females have a light yellow brown forewing with indistinct vertical lines. Eggs are waxy white and ribbed, with a flat base, and are deposited singly usually on lower surfaces of leaves adjacent to or near flowers. Eggs hatch in 2-3 days.
- **Cabbage or soybean looper:** (*Trichoplusia ni* or *Pseudoplusia includens*) Larva are pale green with white line alongside of the body and only 3 pair of prolegs. Mature size 1 – 1 1/4 in. Adult is a grayish brown moth that is active at night. Front wings marked near center with a figure 8 shaped, silver white spot. Eggs are greenish white, ridged but flattened laterally and are found singly on upper or lower leaf surfaces of upper canopy leaves. Hatches in 2 3 days.

Fortunately, growers have a wide array of excellent worm control materials at their disposal these days.

Leafminer

Growers and scouts in the Manatee Ruskin area report they are starting to find very low levels of leafminer starting to show up in some field ends and margins.

Pepper Weevils

Reports indicate that a few pepper weevil adults are showing up in some early pepper plantings in Manatee County right at first bloom.

Spider mites

Respondents in Manatee County report finding a few spider mites beginning to show up in melons.

Broad Mite

A few broad mites are showing up in pepper in scattered locations around South Florida.

Mole crickets

Scouts report finding a few plants cut off by mole crickets here and there in a couple of places.

Diseases

Bacterial Spot

Growers and scouts in the Manatee Ruskin area report that bacterial spot is mostly low but is becoming more active in some older tomato plantings. Pepper remains mostly clean.

Mostly low levels of bacterial spot are being reported on tomato and susceptible pepper varieties in SW Florida. There have been a few confirmed reports of infected transplants coming from the plant house.

Bacterial spot is one of the most serious diseases of tomato and pepper in Florida because it can spread rapidly during warm periods with wind driven rains, and because fruit symptoms reduce marketability.

Bacterial spot is caused by several species of *Xanthomonas* spp. Four species have been identified on tomato: *X. euvesicatoria*, *X. vesicatoria*, *X. perforans*, *X. gardneri*. In Florida, the major species encountered is *X. perforans*.

Symptoms of bacterial spot appear as small, water-soaked, greasy spots on infected leaflets. On tomatoes, distinct spots with or without yellowing occur. Individual leaf spots may coalesce with each other, resulting in the browning of entire leaflets. Fruit spots often begin as dark specks with or without a white halo. As spots enlarge, they become raised and scab-like.

Entry into the plant occurs through stomata or wounds made by wind driven soil, insects, or cultural operations. Bacterial spot can be seed transmitted, but most inocula comes from volunteer plants or infected plant debris in the soil. Temperatures of 75-87°F are ideal for bacterial spot but infections can occur at higher or lower temperatures.

Xanthomonas perforans is seed-borne, which allows for the movement of strains on a global scale.

An integrated approach is needed to manage this disease.

Exclusion is the best means of managing bacterial spot on tomato. Unfortunately, even the best bactericidal treatment offers only limited protection when environmental conditions are favorable for rapid disease development, especially during periods of heavy, wind-driven rains.

Sanitation is important. Pepper and tomato volunteers and solanaceous weeds should be destroyed between crops. Transplant houses should be located away from tomato or pepper fields. Purchase only certified disease-free transplants and seed.

Since water movement spreads the bacteria from diseased to healthy plants, workers and farm equipment should be kept out of fields when fields are wet because the disease will spread readily under wet conditions.

No resistant tomato varieties are available commercially. In pepper, a number of excellent varieties with resistance to races 1 -10 are available.

It is important to apply sprays before and during rainy periods. If conditions are favorable, frequent spraying may not be sufficient to maintain bacterial spot below damaging levels.

The traditional recommendation for bacterial spot control consists of copper and maneb or mancozeb. Attention to application techniques is as important as choice of material in achieving adequate control. The effectiveness of copper is limited, because of the widespread occurrence of copper tolerance among strains of *Xanthomonas*.

In the past few years, a number of products have come on the market that have given good results in research trials when used in rotation or together with traditional controls such as copper. These include Tanos (Dupont) as well as the SAR elicitor Actigard (Syngenta), Leap (Valent), Double Nickel 55 (Certis), Regalia (Maronne Bioinnovations) and Serenade and Sonata (AgraQuest). Leap is unique among the products mentioned above as it contains two active ingredients providing growers with disease management and caterpillar control.

Attention to application techniques is as important as choice of material in achieving adequate control.

Target spot

Low levels of target spot are being to be reported on tomato in Hillsborough County.

Target spot is frequently misdiagnosed as in its early stages as symptoms are difficult to recognize and can be confused with bacterial spot and early blight. Scouting is important to detect early signs of the diseases. Growers are often taken by surprise as in the beginning of the season while we are still experiencing frequent rains they are targeting bacterial spot and then as the rains subside and canopies develop target spot emerges as a larger concern.

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

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

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

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

In trials, wounding was essential for reproduction of the fruit symptoms. Wind-blown sand is probably important in outbreaks of target spot on tomato fruit in the field.

Strategies for the management of this disease require an integrated approach for best results.

Growers should rotate fields to avoid carryover on crop residue and avoid rotations among solanaceous crops. Eliminate any volunteers and weed species that can act as a host.

Start with clean, healthy transplants and maintain proper fertility as nitrogen deficiencies favor the development of early blight.

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

Widespread resistance has been documented to QoI fungicides including both strobilurins and non-strobilurin fungicides in FRAC Group 11 and their use is not recommended for target spot control.

In addition, moderate resistance has been documented in the SDHI fungicides FRAC Group 7 which includes boscalid, penthiopyrad, fluopyram and fluxapyroxad. These should be used with caution and attention paid to rotating with alternative modes of action.

In recent efficacy trials, at the University of Florida – Approvia Top, Inspire Super, Luna Tranquility, Revus Top, Rhyme, and Scala are top performers. Contact protectant fungicides like mancozeb and Bravo are effective and should be used early in the crop cycle switching to more efficacious materials once disease is present.

Consult UF/IFAS recommendations for currently labeled fungicides for target spot control in Florida vegetables.

Pythium

Growers and scouts continue to report problems with pythium in a few places around South Florida particularly in low lying fields that have been impacted by heavy rains. Crops affected include tomato, pepper, watermelon and others.

Pythium is one of the Oomycetes or “water molds.” It thrives in moist soils and multiplies and spreads rapidly under wet conditions. Although Pythium is capable of producing several spore types, zoospores and oospores are most important.

Zoospores are mobile. They are produced rapidly and in great numbers and contribute to the organism's ability to cause disease almost "over-night." Zoospores may be detected within half an hour after a site is flooded and can "swim" for up to 30 hours and move three or more inches through soil.

Oospores are extremely durable and can survive in soil and infected crop debris for more than 10 years. A number of broadleaf and grassy weeds may host *Pythium* spp. and serve as important sources of inocula.

Some growers report good success using Previcur Flex applied as a drench at transplanting.

Some aerial pythium has also been reported melting down plants in a few places in the Manatee Ruskin area and around SW Florida where heavy rains have splashed inoculum into the foliage of young plants.

Gummy stem blight

Low levels of gummy stem blight are being reported on watermelons in a few places around South Florida.

Infection and symptoms may occur on all plant parts and at any stage of development from seedlings to maturity.

Symptoms appear as light to dark brown circular spots on leaves or as brown to black, lesions on stems. Wilting followed by death of young plants may occur. Stem lesions enlarge and slowly girdle the main stem resulting in a red-brown-black canker that cracks and may exude a red to amber gummy substance. Vine wilting is usually a late symptom.

Use of a hand lens will reveal small, clear white (when young) to black (when older), pycnidia embedded in older diseased tissue.

Because other plant disorders can cause exudation of a gummy substance, "gummy-ness" should not be relied upon for diagnosis of gummy stem blight. Anthracnose and inadequate liming can both cause stem lesions and gumming.

Gummy stem blight typically progresses from the central stem of the plant to growing tips. Leaf spots are variable in shape, red-brown in color and initial infections are generally seen on leaf margins and veinal areas.

The fungus (*Didymella bryoniae*) produces two spore stages, a sexually produced spore (ascospore) and an asexually produced spore (pycnidiospore). The ascospore is windborne and serves as a primary source of inoculum. The pycnidiospore functions in secondary spread of the disease. Pycnidiospores are released in a gummy substance that makes them adaptable for spread by splashing water.

Growers often comment on this disease occurring "overnight." What they are actually seeing are the results of secondary spread, which is more difficult to control than primary spread simply because of increased spore numbers with increased diseased tissue.

Gummy stem blight is most severe in wet years since moisture is necessary for spore germination. After a spore germinates on a susceptible host, the fungus penetrates the plant tissue and symptoms can appear in 7 to 12 days.

Gummy stem blight can be successfully managed using a combination of control strategies. Control of primary sources of inoculum is important. Growers should purchase clean seed and avoid transplants that have gummy stem blight or other diseases.

Multiple applications of fungicides are necessary to control gummy stem blight. It is important to begin a fungicide program prior to the first sign of gummy stem blight. In south Florida, the spray program should be initiated soon after emergence. In other areas of the state, fungicide spray programs can be initiated when the vines begin to “run.” When vines are small, band applications of fungicide over the crown area are effective and help reduce application costs. Fungicides like mancozeb or Bravo in rotation will provide good protection before disease is established in the field

In recent years, strains resistant to the strobilurin fungicides have been detected throughout the Southeast, so it is important that growers practice resistance management and avoid repeated applications of these and all fungicides. Materials such as Folicur (Tebuconazole), Pristine (boscalid and pyraclostrobin), Fontelis (penthiopyrad), Inspire Super (cyprodinil and difenoconazole), Luna Experience (fluopyram and tebuconazole), Luna Privilege (fluopyram), Merivon (fluxapyroxad and pyraclostrobin) and Topsin (thiophanate methyl) have shown good efficacy against resistant strains of the disease.

Be sure to read the label as the number of applications per season are typically limited and other restrictions may apply.

Tomato Yellow Leaf Curl Virus

Very low levels of TYLCV – mostly a few plants here and there in a couple of fields - are being reported on tomato around South Florida – both Manatee Ruskin and SW Florida.

News You Can Use

‘Bug doctor’ Philip Stansly dies at age 74, leaves behind a grower-first legacy

Angela DiMichele, Staff Writer
The Independent Florida Alligator
Sep 20, 2018

The weevil was the best thing that happened to Philip Stansly.

“Dad always said that, ‘If it wasn’t for weevil, none of y’all would be here today,’” said his son Ted Stansly. His dad was full of snappy sayings and quotes, Ted Stansly said with a small sigh.

Philip Stansly, a UF professor and international entomologist, died at 74 years old on Sept. 12 in Fort Myers after more than a year-long battle with colon cancer.

Stansly’s career began in Africa with the Peace Corps. He would leave his lodging each morning on camelback to release swarms of ladybugs. His efforts helped keep insects from killing off the date palms locals depended on for food, shelter and fuel, he said.

The self-proclaimed “bug doctor’s” travels led him from the Sahara Desert to Mexico to Venezuela and Ecuador in pursuit of fighting small plant-eating pests. These expeditions earned Stansly the nickname the “psyllid slayer.”

Stansly ventured to a research facility in Lazaro Cardenas, Mexico more than 30 years ago in search of a solution to the boll weevil, a pest wreaking havoc on all kinds of crops. This trip cemented his legacy, his son said.

Ted Stansly, Stansly's oldest of two sons and a 35-year-old UF doctoral agronomy senior, said this trip to southern Mexico is where Stansly met his wife, Silvia Stansly. She survives him along with his two sons, two daughters, one sister, granddaughter and niece.

The extroverted scientist was happy to share knowledge with anyone, said Blair Siegfried, the UF entomology department chair.

"We've all become so specialized that Phil was one of those rare individuals who knew a lot about a lot of different subjects," he said.

Stansly worked with the UF Institute of Food and Agricultural Sciences at Southwest Florida Research and Education Center in Immokalee, Florida since 1989.

Kelly Morgan, the Southwest Florida Research and Education Center director, said he worked with Stansly at the center for 13 years. Together they studied how to improve tree health and overcome impacts of fertilizers. "He wasn't into science just for the science. It had to improve the production practices and benefit the grower," Morgan said. "It really is (his legacy)."

He was always there to provide solutions to these crises, Siegfried said.

"Phil was one the of the best entomologists I've ever known," Siegfried said, "I think he saved growers in very difficult situations when there were certain pest outbreaks."

Stansly was committed to international agriculture and taught students in his lab who went on to have successful careers in the agriculture industry, Siegfried said.

He plans to work with IFAS to create a scholarship fund for international students to honor and continue Stansly's decades of work put into his program, Stansly said.

Stansly spoke at his last Citrus Expo less than one month before his death while battling the painful effects of cancer, Siegfried said. Though most experts gave one presentation, he gave two.

"If you listen to his words, near the end you can almost hear he was saying his goodbyes, and I felt like that was pretty noble of him," Ted Stansly said.

Researchers Recommend New Herbicide Registration for Weed Control in Watermelon Crops

Research featured in the latest edition of the journal Weed Technology recommends that the herbicide bicyclopyrone, now used in corn, be registered for weed management in watermelon crops as well.

Weeds are a major issue in watermelon production. One contributing factor is the wide spacing required around seedlings. When large areas of the field are bare early in the growing season, weeds can become established and outcompete the crop. Studies have confirmed yield losses of up to 82 percent.

A team of researchers recently set out to determine whether bicyclopyrone, an HPPD inhibitor, could be used in watermelon. If so, it would provide an alternative for extended residual weed control via a new site of action, allowing growers to rotate herbicides and reduce selection pressure for resistance.

A two-year field study evaluated the impact of bicyclopyrone on watermelon plants and the yields produced. Treatments were applied to crop beds one day before transplanting and two weeks after. Additional directed treatments were applied at the two-week mark to row middles, avoiding contact with watermelon vines and the surrounding polyethylene mulch.

Researchers found that a small percentage of watermelon plants treated with bicyclopyrone exhibited foliar bleaching and crop stunting, but the symptoms subsided over time. Watermelon yields, marketability and fruit size were unaffected.

"Our research shows that registration of bicyclopyrone for use in watermelon would provide growers a safe alternative for chemical control of many common and troublesome broadleaf and grass weed species," says Matthew Bertucci of North Carolina State University.

Full text of the article, "Effect of Bicyclopyrone on Triploid Watermelon in Plasticulture" is now available in Weed Technology Vol. 32, Issue 4. (Cambridge University Press, 8/29/18)

The Ultimate Weed Management Checklist

Keep weeds out of your fields. Prevent herbicide resistance. Use these tips.

1. Make a plan – Think long-term. Strategize to delay the evolution of herbicide resistance and reduce weed seeds.
2. Go full-rate – Apply full rates of effective pre- and postemergent herbicides with multiple modes of action (MOAs). Dead plants can't produce resistant progeny.
3. Get 'em when they're little – Spray weeds when they're shorter than 4 inches. Don't wait.
4. Spice things up – Don't stick with the same old single MOA. Use multiple, effective MOAs everywhere, every time.
5. Scout it out – Correctly ID weeds by species. Kill weeds that escape an herbicide application.
6. Zero tolerance policy – Destroy uncontrolled weeds, which might mean you have to pull them by hand. Seed from escaped weeds will contribute to the weed seedbank.
7. Don't ditch your ditches – Weeds aren't limited to your fields. Don't let them thrive in forgotten field edges, fence lines and waterways.
8. Keep it clean – Don't let weed seeds hitch a ride. Clean tillage and harvest equipment.
9. Do more than spray – Consider using mechanical and/or cultural control practices, like tillage or cover crops.
10. Re-evaluate and repeat – Review your weed-management results at the end of each season and revise to improve next year.

First Day of Fall – September 22, 2018

Alas, South Florida "Fall Weather" is Still a Ways Off!

In sub-tropical regions such as South Florida, the first taste of fall-like weather is usually delayed by about 4-6 weeks from the start of fall.

October is the transition month from wet/humid to drier/cooler weather.

We normally get one of two brief periods of slightly cooler temperatures and lower humidity before stronger fronts bring the first shot of cool air to South Florida.

Average Date of Fall Arrival is South Florida (based on the first average date of temperatures below 60°F)	
LaBelle	October 21
Belle Glade	October 23
Immokalee	October 23
Moore Haven	October 25
Naples	October 29
Homestead/Redlands	October 30
West Palm Beach	November 2
Fort Lauderdale	November 4
Miami	November 8
Miami Beach	November 17
Courtesy of the National Weather Service in Miami Florida	

Up Coming Meetings

Produce Food Safety Workshops: Fall 2018

Produce Safety Alliance Grower Training

This is the one-day course for fruit and vegetable growers and packers who fall under FSMA's Produce Safety Rule. FDA and PSA are very sensitive about how this course is advertised and promoted as the standardized curriculum. Even though there are currently no other recognized alternative courses to satisfy the training requirements of the Produce Safety Rule, they do not want us to say the course is required or mandated or anything like that...even though, by default, it kind of is. This is the "approved" advertising language from PSA:

WHO SHOULD ATTEND

Fruit and vegetable growers and others interested in learning about produce safety, the Food Safety Modernization Act (FSMA) Produce Safety Rule, Good Agricultural Practices (GAPs), and co-management of natural resources and food safety are encouraged to attend. The PSA Grower Training Course is one way to satisfy the FSMA Produce Safety Rule requirement.

WHAT TO EXPECT

The trainers will spend approximately seven hours of instruction time covering content contained in these seven modules:

- Introduction to Produce Safety
- Worker Health, Hygiene, and Training
- Soil Amendments
- Wildlife, Domesticated Animals, and Land Use
- Agricultural Water (Part I: Production Water; Part II: Postharvest Water)
- Postharvest Handling and Sanitation
- How to Develop a Farm Food Safety Plan

In addition to learning about produce safety best practices, key parts of the FSMA Produce Safety Rule requirements are outlined within each module. There will be time for questions and discussion, so participants should come prepared to share their experiences and produce safety questions.

BENEFITS OF ATTENDING

The course will provide a foundation of Good Agricultural Practices (GAPs) and co-management information, FSMA Produce Safety Rule requirements, and details on how to develop a farm food safety plan. After attending the entire course, participants will be eligible to receive a certificate from the Association of Food and Drug Officials (AFDO) that verifies they have completed the training course.

Here's the list of upcoming PSA courses.

- 10/3/18 – Live Oak - <https://psa100318.eventbrite.com>
- 10/9/18 – Palmetto - <https://psa100918.eventbrite.com>
- 10/23/18 – Sebring - <https://psa102318.eventbrite.com>
- 11/7/18 – Tavares - <https://psa110718.eventbrite.com>
- 11/27/18 – Homestead - <https://psa112718.eventbrite.com>
- 12/13/18 – Immokalee - <https://psa121318.eventbrite.com>
- 12/17/18 – St Augustine - <https://psa121718.eventbrite.com>

October 3, 2018	Lettuce Advisory Committee Meeting	12:00 – 3:00PM
	UF/IFAS Everglades Research & Education Center 3200 E Palm Beach Road Belle Glade, FL 33430	
October 6, 2018	PBC-Rare Fruit Council Plant Sale	9:00AM – 2:00PM
	South Florida Fairgrounds 9067 Southern Blvd West Palm Beach, FL 33411	
October 10, 2018	Corn Growers Meeting	12:00 – 2:30PM
	UF/IFAS Everglades Research & Education Center 3200 E Palm Beach Road Belle Glade, FL 33430	

Please [RVSP](#) so we can be sure to have enough lunches for everyone: <https://www.eventbrite.com/e/sweet-corn-grower-meeting-tickets-50413350689>

November 4–6, 2018 **The 24th International Pepper Conference**

Sanibel Harbour Marriott
Fort Myers, Florida, USA

Learn more at <http://conference.ifas.ufl.edu/pepper2018/>

November 7, 2018 **2018 Florida Ag Expo**

UF/IFAS Gulf Coast Research and Education Center
14625 CR 672
Wimauma, FL 33598

Register online at <http://www.floridaagexpo.com/>

Websites

PERC is the **Pesticide Educational Resources Collaborative** – the website provides a wealth of resources to help you understand and comply with the 2015 Revised WPS including training materials, the “new” WPS poster, handouts and WPS respiratory guide. <http://pesticideresources.org//index.html>

PERC - WPS Compliance Suite — Training Materials

Under the newly-revised Worker Protection Standard (WPS), training materials must be EPA-approved when officially training workers, handlers, and trainers. At present, the only EPA approved materials available can be found at the PERC website

- Expanded training concepts will be required starting January 2, 2018.
- Training must be delivered in a manner that can be understood, in a location relatively free from distractions.
- When training workers or handlers, the trainer must remain present at all times to be available to answer questions, even when showing a video.
- Trainers must be qualified, most often by holding a pesticide applicator's license or by completing an EPA-approved Train-the-Trainer course.

Training Materials for Workers and Handlers - <http://pesticideresources.org/wps/temp/training/index.html>

Need CORE CEU's? – here is an easy way to obtain CORE CEU's on-line by reading an article and answering questions regarding the online. A passing score obtains one Core CEU.

CEU Series: Mix and Load Pesticides Safely

CEU Series: Protect Crops and the Environment

CEU Series: Make Sure to Stow Your Pesticides before You Go

CEU Series: Avoid Mishaps When Handling Pesticides

CEU Series: Be Aware of Bees When Applying Pesticides

CEU Series: Place Priority on Preventing Pesticide Poisoning

CEU Series: Learning about Pesticide Resistance Is Anything but Futile

Go to <http://www.growingproduce.com/?s=CORE+CEUs>

Check out Southwest Florida Vegetable Grower on Facebook:

<https://www.facebook.com/pages/South-Florida-Vegetable-Grower/149291468443385> or follow **Gene McAvoy on Twitter @SWFLVegMan** - <https://twitter.com/SWFLVegMan>

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