



UNIVERSITY OF
FLORIDA

E X T E N S I O N

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SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE

September 27, 2013

West Coast – wet, East Coast – drier to summarize the start to the 2013-2014 season. Many West Coast locations reported in excess of 10 inches of rain over the past week. Most locations experienced near daily rainfall throughout much of August and September. A number of places report over 70 inches for the year to date and growers have been running their throw-out pumps hard this season.

Although South Florida has been spared any tropical weather this season, some rains have been intense and have battered crops especially in the Manatee Ruskin area where plantings are more advanced.

Daytime temperatures have been running in the low to mid 90's with most nights in the 70's.

FAWN Weather Summary

Date	Air Temp °F		Rainfall (Inches)	Ave Relative Humidity (Percent)	ET (Inches/Day) (Average)
	Min	Max			
Balm					
8/1 – 9/25/13	66.13	94.98	12.25	86	0.15
Belle Glade					
8/1 – 9/25/13	67.62	94.26	14.97	87	0.17
Clewiston					
8/1 – 9/25/13	68.45	95.52	7.05	86	0.15
Ft Lauderdale					
8/1 – 9/25/13	60.84	90.75	7.16	76	0.16
Fort Pierce					
8/1 – 9/25/13	68.31	93.40	12.46	85	0.16
Homestead					
8/1 – 9/25/13	69.64	94.95	6.20	86	0.14
Immokalee					
8/1 – 9/25/13	69.17	97.36	16.45	87	0.16

Welcome back and wishing you all the best for a profitable 2013 -2014 Season

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Crops coming to market include okra and boniato sweet potatoes.

Wet weather and heavy rainfall has hampered growers and is causing delays in land prep and planting schedules in a number of locations around South Florida. Wet cloudy weather has increased transplant survival in newly planted fields and heat scald resulting in stand loss often a problem in the early fall has been minimal.

The National Weather Service forecast indicates that drier air will filter into the region from the north by this evening as a shortwave dives south and low pressure develops over the western Atlantic. This will drive the drier air into South Florida under north to northeast flow. Dew points will dip into the upper 60s to near 70 across virtually the entire area. By late Saturday, chances for a few showers and thunderstorms will return as moisture wraps around a persistent area of low pressure across the western Atlantic and into South Florida.

Drier weather will return Sunday persisting into next week as the area of low pressure retreats to the northeast and a return to a more easterly flow pattern.

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

Insects

Worms

Both fall and beet army worm pressure in the Belle Glade area has been high in newly planted sweet corn fields.

On the East Coast, growers and scouts report that worm pressure picking up but not especially heavy although with frequent rains growers have been applying BT's and Intrepid fairly regularly. Scouts report detection of egg masses has been increasing in recent days.

Around Immokalee, growers and scouts are seeing a few beet armyworms but report that overall worm pressure remains relatively low for the fall season.

Melonworm pressure on East Coast cucurbits is moderate.

In the Manatee Ruskin area, worms are becoming plentiful in some locations.

Dr. Dak Seal, Entomologist at UF/IFAS TREC reports that growers in the Homestead area are seeing some fall and beet armyworm.

Dr Seal advises that Verimark applied at plant followed by Novaluron (Rimon)/Spinetoram (Radiant) (28 DAP), indoxcarb (Avaunt) (42 DAP) will provide excellent control of DBM, FAW, BAW and melonworms. *Bacillus thuringiensis* based insecticides can be used in between application of the above treatments to produce worm free crops.

Richard Royal of DuPont Crop Protection suggests another possible insecticide rotation for sweet corn in order to reserve pyrethroids as much as possible for silk flies. Instead of a Group 28 (Diamides) such as Chlorantraniliprole (Coragen) or Flubendiamide (Belt) or Group 5 (Spinosyns) – Spinetoram (Radiant), Spinosad (Conserve, Entrust) or Group 15 (Benzoylureas) – Novaluron (Rimon) followed by Group 1A (Carbamates) such as Carbaryl (Sevin), Methomyl (Lannate) and Group 3A (Pyrethroids) – multiple products - applications for the rest of the crop, some growers have gone back to following a Group 28 (Diamides) whorl

application with a Group 22A (Indoxacarb) Avaunt spray as long as it is before tassel push. Labels for both Group 5 and 15 products have recommendations for tassel push on which Avaunt does not. Using it second in the rotation can leave more options for later.

Cucumber Beetles

Cucumber beetles have been increasing in both sweet corn and in green beans around the EAA.

The banded cucumber beetle is omnivorous, attacking numerous plant species and plant parts. While the pest prefers feeding on weeds in the genus *Amaranthus*, it attacks a wide range of vegetables. Vegetables affected include cucumber, squash, bean, pea, sweet potato, okra, corn, lettuce, onion, and cabbages. Damage may occur to foliage, blossoms, crown, and roots. Delayed growth, plant stunting and stand loss can result from heavy feeding damage by adults.

The white, elongate, soft-bodied larvae have three pairs of minute legs and complete their development below ground feeding on roots. Some of the most serious injury results from larval feeding on the roots of sweet potato and other vegetables. In addition to feeding damage, the banded cucumber beetle is known as a vector of several pathogens including such as Stewart's wilt in corn and several viral diseases in beans. Larval feeding may also increase the incidence and severity of Fusarium wilt in cucurbits.

Insecticides are used to prevent damage to roots by larvae. Typically, granular insecticides are applied over the row, either at or just after planting. Numerous pesticides are labeled for treatment of cucumber beetle larvae.

Foliar insecticides are sometimes needed to prevent damage to seedlings and small plants, but adults are rarely abundant enough to warrant control on large plants. Chemical control of adults is through contact or bait insecticides. Baits may be attractive as they selectively treat the beetles as they eat the baits.

Whiteflies

On the East Coast, reports indicate that whitefly pressure is mostly low with some adults beginning to appear on squash and eggplant in significant numbers in the Loxahatchee area.

Respondents in SW Florida indicate that whitefly numbers have been lower than in previous years and report that numbers remain low to very low on most tomatoes and cucurbits although there are some reports of isolated fields where numbers have flared to higher levels.

The same is true for the Manatee Ruskin area with only a few whiteflies being detected on crops.

Whiteflies have been low around Homestead.

Broad Mites

A few broad mites are being reported on pepper by growers and scouts on both coasts.

Around Homestead, Dak Seal reports that broad mites are present on some over summered crops and may pose a threat on newly planted vegetable crops.

Spider mites

A few spider mites are being reported in eggplants.

Leafminers

A few leafminers are beginning to show up in the oldest planted tomatoes in the Manatee/Ruskin area.

Sweetpotato weevil

Respondents in Homestead report that weevils are abundant on boniato sweet potato.

The adult sweet potato is striking in appearance. The head is black, the antennae, thorax and legs orange to reddish brown, and the abdomen and elytra are metallic blue. The snout is long and slightly curved.

Adults are secretive; often feeding on the lower surface of leaves, and are not readily noticed. The white legless larva creates winding tunnels packed with fecal material as it feeds and grows.

Infestation by sweetpotato weevil may cause yellowing of the vines, but a heavy infestation is usually necessary before this is apparent. Thus, problems are easily overlooked, and damage not apparent until tubers are harvested. The main damage to sweet potato is mining of the tubers by larvae. Infested tubers are often riddled with cavities, spongy in appearance, and dark in color. In addition to damage caused by tunneling facilitates the entry of soil-borne pathogens.

This weevil feeds on plants in the morningglory family. Among vegetable crops only sweet potato, I. batatas, is a suitable host. Native plants can be important hosts of sweetpotato weevil.

Cultural practices can help alleviate weevil problems. Sanitation is particularly important for weevil population management. Discarded tubers and unharvested tubers can support large weevil populations, and every effort should be made to eliminate such material. Destruction of alternate hosts is also recommended.

Pheromone traps show promise for monitoring of adult population density. Weevils respond to low concentrations of pheromone, and will move readily to a pheromone source. Pheromones also show potential for mating disruption and mass trapping.

Applications of insecticides are commonly made to the soil at planting to prevent injury to the slips. Systemic insecticides are preferred. Due to the long duration of the plant growth period, preplant or planting time applications are commonly followed by one or more insecticide applications to the plant or soil at mid-season.

Consult UF/IFAS recommendations for currently labeled insecticides for sweet potato weevil control in Florida.

Dak Seal advises that lannate, pyrethroids and sulfoxaflor (Closer) provided significant reduction of sweet potato weevil in his laboratory and field studies.

Diseases

Bacterial Spot

Growers and scouts around Immokalee report that bacterial spot has been relatively despite rainy weather and is mostly low but note that it is increasing in a number of places especially in fields which were recently pruned and tied.

In Hillsborough County, respondents note that bacteria is increasing in some older tomato plantings which were battered by thunderstorms.

East coast producers note that mostly low levels of bacterial spot is present in some tomatoes.

Bacterial spot is one of the most serious diseases of tomato 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*.

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.

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*.

There is some evidence that the use of organosilicate adjuvants and applications of magnesium might increase the incidence and severity of bacterial spot infections.

In the past few years several new 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), Actinovate (Novozymes), Regalia (Maronne Bioinnovations) and Serenade and Sonata (AgraQuest).

A number of growers and researchers have also experienced success with the bacteriophage (bacterial virus) AgriPhage (Omnilytics) for the control of bacterial spot. Success with AgriPhage requires a high level of management and sampling to detect new strains of bacteria and submit the samples to Omnilytics for reformulation.

Pythium

Pythium has been a problem in some newly transplanted tomato and pepper crops around Southwest Florida. Incidence has been surprisingly low given the heavy rainfall of the past several weeks.

Reports from the Manatee area indicate that growers had a rough start with both soil and aerial pythium in some tomato plantings.

Pythium is also causing some issues in Palm Beach County especially on some organic operations.

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.

Pythium is often associated with root rots and pre-emergent and post-emergent damping off. One of the characteristics of tissue infected with Pythium spp. is the presence of water-soaked or greasy appearing tissue. This is in contrast to the orange to red to dark, sunken lesions caused by *Rhizoctinia solani*.

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.

Resistant cultivars do not exist so control of Pythium depends on a variety of tactics. Crops should be planted on raised beds in well-drained soils.

Pre-plant soil fumigation is effective if applied correctly. Soil solarization has successfully suppressed Pythium in some cases. Fumigant formulations containing chloropicrin are the most effective in providing control.

If a solarization or a soil fumigant is used, raised beds are important since fumigated soil has minimal or no beneficial organisms to compete against pathogens. Control is at best temporary as under the right conditions zoospores from un-fumigated soil may readily re-infest treated bed.

A number of chemical treatments are available for the control of damping off. Seed treatments containing mefenoxam (Apron) work best.

Pre plant fungicidal applications such as Ridomil Gold (mefenoxam) applied to the bed for the suppression of seedling blights and root rots is helpful if applied before infection occurs. On transplanted tomatoes, growers have also reported good success using Previcur in transplant water.

Several biological control agents, including actinomycetes and other bacteria and fungi, (Actinovate Serenade Soil, Soilguard and others) are available commercially for suppression of Pythium and other soil borne pathogens. Their success rate has been variable.

Tomato Yellow Leaf Curl

Incidence and occurrence of TYLCV is very low across the area with only a few isolated plants being reported in a handful of fields.

Southern Blight

Respondents on the east Coast are reporting some problems with southern blight in young pepper.

Choanephora Blight

A little Choanephora wet rot has been reported in pepper around South Florida with the wet weather

Choanephora blight or wet blight, caused by the fungus Choanephora sp., is an occasional problem on vegetables especially during the early fall in Southwest Florida. Choanephora sp. is common throughout the tropics on many vegetables including Southern peas, eggplant, green beans, pepper and squash, and poinsettia, however, its occurrence on bean and pepper plants in Florida is not common.

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.

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.

Cucurbit Leaf Crumple Virus

Dr Matthews Paret, Plant Pathologist at the UF/IFAS NREC in Quincy reports that Cucurbit Leaf Crumple Virus on watermelon is going wild throughout Panhandle. For more info on the disease, see http://nfrec.ifas.ufl.edu/paret/u-scout/Cucurbits/Pages/Cucurbit_Leaf_Crumple_Virus.html

News You Can Use

August Weather Summary – West Coast Wet – East Coast Drier

Subtropical high pressure dominated south Florida's weather pattern throughout much of August. This high pressure area, often referred to as the Bermuda High, extended from the Atlantic across Florida and led to a predominantly easterly flow over the region. This allowed the Atlantic sea breeze to penetrate well inland most days and focused the typical summer showers and thunderstorms over interior and western portions of the south Florida peninsula.

This pattern led to a large difference in rainfall totals across the area from east to west, with below normal rainfall across the majority of the region, including the eastern metropolitan areas, but above to well-above normal across portions of Hendry, Glades, and western Collier counties. This discrepancy is highlighted by eastern metro locations such as Fort Lauderdale/Hollywood International Airport and Homestead General Airport registering their 4th and 2nd driest August on record.

Summer 2013 rainfall totals over South Florida generally ranged from near normal to above normal, as a mostly drier August counteracted a very wet June and July. The summer trend has been for higher rainfall totals over the western third of southern Florida, represented by the high values measured at Ortona, LaBelle and Naples/Golden Gate.

Above normal rainfall in these locations, as well as adjacent counties in central Florida, led to above normal water levels in Lake Okeechobee. Copious rains in June and July contributed to the level of the lake rising from just over 13 feet in early June to around 16 feet in early August. A drier August over and north of Lake

Okeechobee allowed for the lake to slowly fall to around 15.5 feet by the end of August but September's rains have brought it back up to over 16 feet.

Affordable Care Act

The Affordable Care Act requires all employers to start notifying their workers whether or not the employer provides health insurance for employees. The Fair Labor Standards Act section 18B requirement to provide a notice to employees of coverage options applies to ALL employers and is effective October 1, 2013. All current employees and all new hires must be given a form with information on the Marketplace Exchanges and with their current employer information. They will need their employer information if they decide to get a health insurance quotation for themselves and/or their families.

The U.S. Department of Labor has this information on their web site at:
<https://www.dol.gov/ebsa/healthreform/index.html>

There you will find sample notices along with some other information concerning your responsibilities under the Affordable Care Act as an employer.

If your operation DOES offer or provide health care, please visit the U.S. DOL web site listed above to find the notice you should provide to your employees.

Agricultural Labor Enforcement

The U.S. Department of Labor, Wage and Hour Enforcement personnel out of the Tampa office will have two training sessions concerning agricultural labor enforcement for the upcoming season.

The first session is on Wednesday, October 16th in Sebring at the Bert Harris Agricultural Center on George Boulevard (off Highway 27). It starts at 6:00 PM and is scheduled to run until 8:00 PM.

The second session is on Thursday, October 17th in Winter Haven at the Polk Works office at 500 East Lake Howard Drive, Winter Haven, Florida 33881. The Winter Haven session starts at 5:30 PM.

Both sessions will cover the Fair Labor Standards Act and the Migrant Agricultural and Seasonal Protection Act requirements as they apply to agri-business. They will also cover the H-2A program and have Florida DEO staff with them to help answer questions.

Chinese Ag-Chem in the U.S.

The shift to Chinese pesticide manufacturing has led to more than half of the agricultural chemicals used in the United States being made in China, according to Telisport Putsavage, a pesticide industry expert and environmental counsel at the Sullivan & Worcester law firm in Washington, D.C. In 2010, China's chemical production output surpassed that of the United States for the first time, and pesticide companies played a key role in driving that growth.

The next step in China's bid to increase market share of the industry will see Chinese companies attempting to sell their own brands of products in the United States. "What's happening, and the evolution we see coming in the future, is that gradually the bigger Chinese producers are going to try to move up the value chain and create their own brand presence here in the U.S.," Putsavage said. "The larger companies, which are well into the hundreds of millions in revenue, are beginning to explore, and in some cases actually making moves into the U.S."

One sign of this expansion came in 2011, when ChemChina - China's largest generic ag-chem company with \$31.97 billion in annual sales - acquired the world's largest generic ag-chem producer, Israeli firm Makhteshim Agan Industries, for \$2.4 billion. The Makhteshim Agan deal not only expanded ChemChina's production capabilities but also helped position the Fortune 500 company to enter the American pesticide market.

Makhteshim Agan has built themselves as the largest supplier of generic ag-chem because of their aggressive marketing and also because of their inroads into the American market, which is very hard to get into. Chinese companies are currently opening pesticide-producing plants across the United States. There are 450 ag-chem production establishments pursuing registrations to come into the United States, only about 15 of which have actually obtained them, Putsavage said. But many of the rest likely won't be far behind.

One goal for the Chinese companies, Putsavage explained, is to sell directly to farmers rather than “be at the mercy of” the 12 distributors in the U.S. ag-chem market today. Such a shift may eat away at the revenue of the American producers, but it will also result in greater competition, which could bring the benefit of lower prices for farmers. Another positive side effect of Chinese pesticide firms focusing on the American market over the coming years is that the Chinese government is being forced to pay more attention to environmental concerns, Putsavage pointed out. “Any chemical manufacturing plant that’s making a product for sale and distribution in the U.S. has to be registered with the U.S. Environmental Protection Agency as a producing establishment,” he said. (International Business Times, 8/2/13).

Pesticide Potpourri

New Bio-Insecticide

A team of Australian and New Zealand researchers are harnessing bacteria as a possible new bio-insecticide to control crop pests. The team, which includes Michael Landsberg, Ph.D., from The University of Queensland's Institute for Molecular Bioscience, investigated the workings of *Yersinia entomophaga*, a bacteria that kills a range of insect species that damage crops. In the process, the researchers discovered an entirely new way in which cells produce and store toxins. The team “showed that the bacteria manufactures a giant, hollow protein shell that encapsulates the toxin, much like a protective canister that is only opened when specific environmental conditions are encountered,” Landsberg said. “This explains how the bacteria can produce toxins without harming themselves - the toxins are secured in the protein shell and released at an appropriate time, which is what kills the insect. Dr. Landsberg said the bacteria's ‘blueprint’ for producing this canister uses a repeating protein sequence that is found in large numbers in other bacteria and animals. “While the sequence encoding the shell is conserved across species, the toxins or other encapsulated molecules can be quite different,” he said. “Our studies suggest we may have found a molecular assembly manual that bacterial and animal cells alike use to manufacture a generic canister for the protection of toxic or sensitive molecules.” The bacterium was originally discovered in the native New Zealand grass grub by Mark Hurst, Ph.D., from AgResearch, but it was the discovery that it also affected insects such as the diamondback moth, which damages crops worldwide, that piqued the team's interest. (AGProfessional, 8/8/13).

- On August 4, the FDACS registered the fungicide picoxystrobin (Approach®) to control diseases in food crops. The EPA registration number for the DuPont product is 7969-302. (FDACS PREC Agenda, 9/5/13).

Managing Diamide Resistance in Florida Tomato

Diamides belong to a recently developed class of insecticides that disrupt ryanodine receptors, intracellular calcium channels that play a central role in muscle and nerve function. Diamide insecticides are systemic—they can be taken up by the plant’s vascular system either through the roots or foliage. There are presently three diamide insecticides available for use on tomatoes in Florida: chlorantraniliprole, cyantraniliprole, and flubendiamide. Chlorantraniliprole and cyantraniliprole are also referred to as rynaxypyr and cyazypyr, respectively. Chlorantraniliprole, the active ingredient in Coragen, became available in 2008, and

flubendiamide, the active ingredient in Belt and Synapse, became available in 2009. Cyazypyr became available in 2013, sold as Verimark for soil application and Exirel for foliar application. Diamide insecticides have been assigned the mode of action classification number 28 by the Insecticide Resistance Action Committee (www.irc-online.org).

Flubendiamide is primarily active against caterpillar pests. Key caterpillar pests of Florida tomato that can be managed with flubendiamide include cutworms, tomato fruitworm (*Helicoverpa zea*), tomato pinworm (*Keiferia lycopersicella*), southern armyworm (*Spodoptera eridania*), beet armyworm (*Spodoptera exigua*), and yellowstriped armyworm (*Spodoptera ornithogalli*). Other caterpillar pests attacking tomato that can be managed with flubendiamide include tobacco hornworm (*Manduca sexta*), cabbage looper (*Trichoplusia ni*), and soybean looper (*Pseudopludia includens*).

Chlorantraniliprole is effective against the same complex of caterpillar pests of tomato as flubendiamide. In addition, chlorantraniliprole suppresses nymphs of the silverleaf whitefly, *Bemisia tabaci* biotype B, and can be used to manage the larvae of serpentine and vegetable leafminers (*Liriomyza sativae* and *L. trifolii*).

Cyantraniliprole is effective against both adults and nymphs of the silverleaf whitefly, in addition to killing leafminer and caterpillar pests. The silverleaf whitefly vectors Tomato yellow leaf curl virus (TYLCV), which can cause devastating losses in tomato in Florida and other regions of the world.

As with any insecticide, repeated use of diamide insecticides on successive generations of the same pest may lead to the development of insecticide resistance. In order to avoid the development of resistance to diamides by targeted pests of tomato, group 28 insecticides must be rotated with insecticides possessing different modes of action.

In order to conserve the efficacy of diamide and other insecticides, a “treatment window” approach can be employed. A treatment window is a period of time that is defined by the crop stage, the biology of the pest complex attacking the crop, or a combination of both. Tomato crops are most vulnerable to TYLCV during the first five or six weeks after transplanting, which makes that period the treatment window: the most important time to treat to protect the plants. Planting resistant varieties, destroying crop residues that serve as a reservoir for TYLCV, and using reflective mulches are key strategies for reducing early infection of the tomato crop. At-plant applications of neonicotinoid insecticides (Group 4A) or cyantraniliprole may also provide important early-season protection from viruliferous whiteflies. Because of the importance associated with insecticides that can help suppress transmission of TYLCV, the early season may be considered a priority “treatment window” for use of cyantraniliprole.

If a diamide is used during the first 35–42 days after transplanting, alternate modes of action should be used instead of diamides for a period of roughly thirty days following the final application of the diamide insecticide. Under this scenario, insecticides that do not include active ingredients with a group 28 mode of action would be used for suppression of whitefly, leafminers, and caterpillars during this second treatment window. For example, group 6 and 17 materials could be used for leafminer, and group 11, 18, and 22 materials could be used for caterpillar management. “Softer” materials, including materials that have not been assigned an IRAC MOA number, can be included in these insecticide rotations when appropriate.

Spinosyns, group 5 insecticides, are effective against leafminers and caterpillars but should be reserved for thrips management whenever possible. This is because the spinosyns are among the most effective insecticides for managing thrips, and excessive use of spinosyns can lead to the development of resistance among thrips populations.)

Beat the Heat

Exposure to heat and sun can result in serious health problems for anyone; agricultural workers, by the very nature of their jobs, are especially vulnerable. Compensation claims related to heat exhaustion and skin cancer

in the agricultural sector are among the highest of any occupation. As the long days of summer field work approach, managers and supervisors can help themselves and their employees reduce their risks by reinforcing best practices for heat and sun safety.

“People should take special caution when suddenly going from mild to very hot temperatures, gradually increasing time spent outdoors and workloads,” said Judy Garrett, Health Services Manager for Syngenta. She added, “Don’t expect to accomplish the same amount of work on those first ‘scorching’ days of summer.”

The first step is raising awareness. “The subject of heat and sun-related ailments should be part of every safety training program, with regular reminders given throughout the spring and summer,” said Garrett. To reduce the risk of overexposure to heat and/or sun, Garrett outlined these preventive measures:

- Wear clothing that is light-colored, moisture wicking, and comfortable. Top off with a ventilated, wide-brimmed, sun-safe hat. Both clothing and hat should be made of tightly woven fabric.
- Stay hydrated. Water and sports drinks taken in small amounts all day long are more effective than large amounts of liquid at one time. Avoid excessive caffeine and avoid carbonated drinks.
- Protect exposed skin with sunscreen that provides at least 30 SPF and offers both UVA and UVB protection.

Reapply frequently.

“It’s also important to use lip balm with SPF,” said Garrett. “And don’t forget the eyes. In the past, we didn’t think much about eye protection; but in recent years, we have learned that it is just as important to protect the eyes from the sun as it is to protect the skin.” Sunglasses or tinted safety glasses worn outside should offer both UVA and UVB protection.

Once a person becomes overheated, it takes at least 30 minutes to slowly restore normal temperature. “It’s important that body temperature be reduced gradually,” said Garrett. “Get in the shade. Cool down with a fan or minimal air conditioning. You can also cool down by applying cool water to pressure points around the neck, the wrist or groin area.”

For more information, visit these websites:

- EPA’s Guide to Heat Stress in Agriculture <http://www.epa.gov/pesticides/safety/workers/heatstre.htm>
- Ohio State University Extension Fact Sheet: Sun Exposure and Protection <http://ohioline.osu.edu/hyg-fact/5000/5550.html>
- U.S. Department of Labor’s OSHA (Occupational Safety & Health Administration) Standards for Heat Stress www.osha.gov/SLTC/heatstress

Up Coming Meetings

October 10, 2013 Core and Private Applicator Training and Exams

8:00 AM

Hendry County Extension Service
1085 Pratt Boulevard
LaBelle, Florida

Exam prep classes (Core 8 AM – Noon and, Private 1 PM – 4 PM) will be held to help you prepare for the Core and Private Applicator RUP license exams. Exams will be offered immediately following the classes. However,

you do not have to take the exams the same day. You may schedule a time to take the exams at your convenience. You may take one class without the other, if needed.

If you are already a license holder, 3 CEUs in Core and 3 in Private are offered for both classes, respectively.

For details and registration, call Debra at 863-674-4092 or email dcabrera@ufl.edu

October 11, 2013 **WPS Train the Trainer Class** **8:00 AM**

Hendry County Extension Service
1085 Pratt Boulevard
LaBelle, Florida

For details and registration, call Debra at 863-674-4092 or email dcabrera@ufl.edu

October 16, 2013 **U.S. DOL Wage and Hour Agricultural Labor Enforcement** **6:00 PM**

Bert Harris Agricultural Center
George Boulevard (off Highway 27).
Sebring, Florida

October 17, 2013 **U.S. DOL Wage and Hour Agricultural Labor Enforcement** **5:30 PM**

Polk Works Office
500 East Lake Howard Drive
Winter Haven, Florida

November 5, 2013 **FFVA Health Care Reform Meeting** **5 PM**

UF/IFAS SWFREC
Hwy 29 N
Immokalee, Florida

November 6, 2013 **Florida Ag Expo** **7:30 AM - 4:00 PM**

UF/IFAS Gulf Coast Research & Education Center
14625 County Road 672
Balm, FL 33598

For more info and to register - <http://tinyurl.com/ou5yhnk>

Opportunities

Farm Land for Lease

Farm Land for lease in LaBelle area – contact Clyde Lavender at 863-673-2338

Farm Land for lease on Babcock Ranch, Hwy 31, Charlotte County. Rotational fields or permanent locations, phone 941-639-3958

Websites

FarmPolicy.com is a daily summary of news relating to U.S. farm policy. Updates highlight news items dealing with the U.S. and global agricultural economy, including the Farm Bill, production agriculture, trade, biofuels and crop insurance. Go to <http://farmpolicy.com/>

EPA-approved Fumigant training program for certified applicators using methyl bromide, chloropicrin, chloropicrin and 1,3-dichloropropene, dazomet and metam sodium and potassium - <http://www.fumigantraining.com/>

EPA-approved training program for certified applicators using dimethyl disulfide (DMDS) - <http://paladin.trainingmine.com/>

My Florida Farm Weather - This program, developed by the Florida Department of Agriculture and Consumer Services (FDACS) in partnership with University of Florida's Automated Weather Network (FAWN), provides up-to-the-minute information on key weather variables, including rainfall, temperature, humidity, dew point, wind speed and wind direction. **Visit** <http://fawn.ifas.ufl.edu/mffw>

Quotable Quotes

Opportunities multiply as they are seized - Sun Tzu

If you're going through hell, keep going. - Winston Churchill

In the United States today, we have more than our share of the nattering nabobs of negativism. - Spiro T. Agnew

A tiny and closed fraternity of privileged men, elected by no one, and enjoying a monopoly sanctioned and licensed by government. - Spiro T. Agnew

Always do your best. What you plant now, you will harvest later. - Og Mandino

On the Lighter Side

GARDEN SNAKES CAN BE DANGEROUS...

Snakes also known as Garter Snakes (*Thamnophis sirtalis*) can be dangerous Yes, grass snakes, not rattlesnakes. Here's why.

A couple in Sweetwater, Texas, had a lot of potted plants. During a recent cold spell, the wife was bringing a lot of them indoors to protect them from a possible freeze.

It turned out that a little green garden grass snake was hidden in one of the plants. When it had warmed up, it slithered out and the wife saw it go under the sofa.

She let out a very loud scream.

The husband (who was taking a shower) ran out into the living room naked to see what the problem was. She told him there was a snake under the sofa.

He got down on the floor on his hands and knees to look for it. About that time the family dog came and cold-nosed him on the behind. He thought the snake had bitten him, so he screamed and fell over on the floor.

His wife thought he had had a heart attack, so she covered him up, told him to lie still and called an ambulance.

The attendants rushed in, would not listen to his protests, loaded him on the stretcher, and started carrying him out.

About that time, the snake came out from under the sofa and the Emergency Medical Technician saw it and dropped his end of the stretcher. That's when the man broke his leg and why he is still in the hospital.

The wife still had the problem of the snake in the house, so she called on a neighbor who volunteered to capture the snake. He armed himself with a rolled-up newspaper and began poking under the couch.. Soon he decided it was gone and told the woman, who sat down on the sofa in relief.

But while relaxing, her hand dangled in between the cushions, where she felt the snake wriggling around. She screamed and fainted, the snake rushed back under the sofa.

The neighbor man, seeing her lying there passed out, tried to use CPR to revive her.

The neighbor's wife, who had just returned from shopping at the grocery store, saw her husband's mouth on the woman's mouth and slammed her husband in the back of the head with a bag of canned goods, knocking him out and cutting his scalp to a point where it needed stitches.

The noise woke the woman from her dead faint and she saw her neighbor lying on the floor with his wife bending over him, so she assumed that the snake had bitten him. She went to the kitchen and got a small bottle of whiskey, and began pouring it down the man's throat.

By now, the police had arrived.

They saw the unconscious man, smelled the whiskey, and assumed that a drunken fight had occurred. They were about to arrest them all, when the women tried to explain how it all happened over a little garden snake!

The police called an ambulance, which took away the neighbor and his sobbing wife.

Now, the little snake again crawled out from under the sofa and one of the policemen drew his gun and fired at it. He missed the snake and hit the leg of the end table. The table fell over, the lamp on it shattered and, as the bulb broke, it started a fire in the drapes.

The other policeman tried to beat out the flames, and fell through the window into the yard on top of the family dog who startled, jumped out and raced into the street, where an oncoming car swerved to avoid it and smashed into the parked police car.

Meanwhile, neighbors saw the burning drapes and called in the fire department. The firemen had started raising the fire ladder when they were halfway down the street. The rising ladder tore out the overhead wires, put out the power, and disconnected the telephones in a ten-square city block area (but they did get the house fire out).

Time passed! Both men were discharged from the hospital, the house was repaired, the dog came home, the police acquired a new car and all was right with their world.

A while later they were watching TV and the weatherman announced a cold snap for that night. The wife asked her husband if he thought they should bring in their plants for the night.

And that's when he shot her.

You Are Special

A well-known speaker started off his seminar holding up a \$20.00 bill. In the room of 200, he asked, "Who would like this \$20 bill?" Hands started going up. He said, "I am going to give this \$20 to one of you but first, let me do this."

He proceeded to crumple up the \$20 dollar bill. He then asked, "Who still wants it...?" Still the hands were up in the air. "Well," he replied, "What if I do this?" And he dropped it on the ground and started to grind it into the floor with his shoe. He picked it up, now crumpled and dirty. "Now, who still wants it?" Still the hands went into the air.

"My friends, we have all learned a very valuable lesson. No matter what I did to the money, you still wanted it because it did not decrease in value. It was still worth \$20. Many times in our lives, we are dropped, crumpled, and ground into the dirt by the decisions we make and the circumstances that come our way. We may feel as though we are worthless. But no matter what has happened or what will happen, you will never lose your value.

Dirty or clean, crumpled or finely creased, you are still priceless to those who DO LOVE you. The worth of our lives comes not in what we do or who we know, but by WHO WE ARE.

You are special-Don't EVER forget it." If you do not pass this on, you may never know the lives it touches, the hurting hearts it speaks to, or the hope that it may bring. Count your blessings, not your problems.

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

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

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