



UNIVERSITY OF  
FLORIDA

E X T E N S I O N

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# SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE

November 16, 2007

**November ushered in cooler more seasonable weather to South Florida and marked an end to rainy season.** Overcast skies kept most temperatures one to four degrees above normal in the major cities. Daytime highs have been pleasant ranging in the 70s and 80s. Evening temps have been cooler in the 50s and 60s with some areas experiencing at least one evening in the 40s.

**Rains and gusty winds associated with Tropical Storm Noel interrupted some field work in southern east coast localities.** Fort Lauderdale and Homestead received in excess of two inches of rain for the period while most west coast locales recorded less than half an inch. Windy, wet weather early in the month increased disease pressure in many places.

**Harvesting of most vegetables was underway with light supplies of snap beans, Chinese cabbage, cucumbers, eggplant, pepper, squash, tomatoes, watermelon and various specialty items.**

### FAWN Weather Summary

Date	Air Temp °F		Rainfall (Inches)	Ave Relative Humidity (Percent)	ET (Inches/Day) (Average)
	Min	Max			
<b>Balm</b>					
10/4 – 10/25/2007	45.90	84.36	0.39	74	0.08
<b>Belle Glade</b>					
10/4 – 10/25/2007	48.25	86.04	0.35	78	0.09
<b>Ft Lauderdale</b>					
10/4 – 10/25/2007	59.20	85.64	2.58	75	0.09
<b>Fort Pierce</b>					
10/4 – 10/25/2007	52.32	84.27	0.95	80	0.09
<b>Homestead</b>					
10/4 – 10/25/2007	57.49	85.71	2.36	77	0.1
<b>Immokalee</b>					
10/4 – 10/25/2007	49.03	96.69	0.11	76	0.09

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**The short-term forecast from the National Weather Service in Miami** indicates that a strong cold front is currently dropping down from north Florida. Strong cold air advection in the wake of the front will lead to the coolest weather so far this fall season across south Florida with temperatures ranging the upper 40s west of Lake Okeechobee and the upper 50s east coast metro areas by Friday morning. Classic cold air advection pattern on Friday with breezy north winds and temperatures will struggle to reach 70 degrees despite full sun. High pressure will settle over north Florida Friday night...leading to good radiational cooling conditions over interior sections with lower 40s expected west and south of the lake and lower to mid 50s elsewhere except near 60 along the east coast for Friday night/Saturday morning. The high begins to move east on Saturday...with northeast winds beginning a slow moderating trend in temperatures which will last into the extended period. For additional information, visit the National Weather Service in Miami website at <http://www.srh.noaa.gov/mfl/newpage/index.html>

## **Insects**

### **Whiteflies**

**Respondents in Manatee County whiteflies are still around but mainly staying around 1- 2 per plant which is lower than might be expected given the stage of the crop and historical counts at this time in last year.** Despite the reduction in numbers reports indicate incidence of TYLCV and whitefly vectored viruses continue to increase in cucurbits.

**Around Immokalee, whitefly numbers are mostly low in tomatoes and pepper although some scouts are beginning to report finding nymphs in some older tomato fields and in peppers.** Higher numbers have been reported in eggplants and squash with some silver leaf starting to appear in scattered locations.

**Reports from Homestead indicate that whitefly pressure remains lower than it has been in past years but note numbers are beginning increase in some places.**

**Growers and scouts around Palm Beach County report mostly low numbers of whiteflies with higher numbers being reported in eggplant and squash.**

For current management recommendations – see **Management of Whiteflies, Whitefly-Vectored Plant Virus, and Insecticide Resistance for Vegetable Production in Southern Florida** - <http://edis.ifas.ufl.edu/IN695>

### **Worms**

**Respondents in Homestead report that fall armyworm remain active in corn acreage.** Dr. Dak Seal reports that pickle and melonworm pressure has been high the last 4-5 weeks. In trials, nontreated plots were 70-90% defoliated. Novaluron significantly controlled pickle and melon worms and Radiant (Spinetoram) was the best treatments of all the products tested.

**Growers in the EAA report problems with armyworms in corn and leafy greens.**

**Reports from the Manatee/Ruskin area indicate that worm pressure has slowed down over the past few weeks but note that they are still finding a mixed bag of species.**

**Around southwest Florida, worm pressure has dropped off, although reports indicate worms remain active in peppers and corn with fall and beet armyworm causing problems.** Melonworms have been active in cucurbits.

**In Palm Beach County growers and scouts report that worm pressure is moderate and appears to be declining in pepper and tomato with beet and southern armyworms predominating.** Loopers and melonworms have been heavy in squash and cucumbers.

**As new compounds come on the market, growers are reminded of the importance of rotating between different modes of action to reduce the possibility of building resistance in a given population.** The table below provides a guide for selecting lep materials with differing modes of action.

<b>MOA Review for Control of Lepidoptera</b>		
<b>Class of Chemistry</b>	<b>IRAC MOA</b>	<b>Brands</b>
<b>Carbamates &amp; OPs</b>	<b>1A &amp; 1 B</b>	<b>Lannate, Guthion, Orthene &amp; Lorsban</b>
<b>Pyrethroids</b>	<b>3</b>	<b>Baythroid, Warrior, Mustang, etc.</b>
<b>Neonictinoids</b>	<b>4A</b>	<b>Calypso, Assail</b>
<b>Spinosyns</b>	<b>5</b>	<b>Success, Spintor, Tracer, Dow XDE 175</b>
<b>Macrocyclic lactones</b>	<b>6</b>	<b>Denim, Proclaim (Emamectin – Syngenta)</b>
<b><i>Bacillus thurengensis</i> – microbial toxins</b>	<b>11</b>	<b>Agree, Biobit, Crymax, Deliver, DiPel, Javelin, Lepinox, Xentari</b>
<b>Benzoylureas – IGR type MOA</b>	<b>15</b>	<b>Diamond &amp; Rimon (novaluron - Crompton) Dimilin</b>
<b>MACs – IGR type MOA</b>	<b>18</b>	<b>Intrepid, Confirm (Methoxyfenozide, Tebufenozide)</b>
<b>Oxadiazine &amp; Semicarbazone (SCBI)</b>	<b>22</b>	<b>Avaunt &amp; Steward (indoxacarb - DuPont), Alverde (metaflumizone - BASF)</b>
<b>Anthranilamide &amp; Phthalic acid diamides</b>	<b>Ryanodine receptor</b>	<b>Coregan &amp; Altacor (rynaxypyr or DPX-E2Y45- DuPont) Belt &amp; Synapse (flubendiamide – Bayer Crop Science)</b>

Thanks to Dr Mike Edenfield, Bayer Crop Science.

### **Leafminer**

**Around Immokalee leafminers are widely present and pressure up and down with most growers now applying controls.**

**Leafminers are present in most East Coast locations with variable pressure reported.** Reports indicate that most growers are now treating for leafminers.

**Around Manatee County reports indicate that leafminer is widely present in tomato and other crops but note that pressure has fallen in recent days.**

### **Broad Mites**

**Around Immokalee, broadmites continue to cause problems in pepper and eggplant.**

**Respondents in Palm Beach note that broad mites are present in pepper.**

**Broadmites are so small that they are may be hard to see even with a good hand lens.** Symptoms of broad mite feeding include distortion of plants growth causing leaves to become thickened and narrow resulting in a “strappy” appearance. Leaves curl downward and may turn coppery or purplish. Internodes shorten and lateral

buds break more than normal. Mites tend to crowd into crevices and buds and feed on the growing tips. This new growth may also be stunted or killed which forces out additional shoots. Flowers are distorted and fail to open normally.

**Heavy feeding can cause flower abortion and russetting of fruit.** Unless controlled, broad mites can destroy the commercial value of infested crops. Their toxic saliva causes twisted, hardened and distorted growth in the terminal of the plant. The effects of their feeding may persist long after the mites have been eradicated.

**Chemical control is not difficult. Kelthane or dicofol, micronized sulfur (i.e. Thiolux) and AgriMek have all given good results locally.** It should be noted that none of these materials kills eggs or seems to have enough residual to kill all hatching larvae. Therefore, to achieve control it is necessary to make at least two applications about 5 days apart to allow time for eggs to hatch and target emerging larvae.

**Oberon has also provided good control.** It should be applied twice at 7-day intervals and will provide some ovicidal activity.

**Research performed by Dr Dak Seal, TREC indicates that tank mixing 1% Trilogy with half rates of Kelthane or Agrimek provided mite control equivalent to that obtained with full rates of either product alone.**

### Pepper Weevils

**Around Immokalee, mostly low levels of pepper weevils have been reported in several locations.** In one case, scouts report finding juvenile weevils in very small plants almost as soon as they go in the ground.

**Many growers have indicated disappointing results in obtaining satisfactory control with Vydate in the field.** Some growers have terminated older plantings where weevils had become unmanageable. A number of growers have indicated obtaining good results in controlling weevils with either Capture - bifenthrin or cryolite. Actara – thiomethoxam has also demonstrated good efficacy.

**Other materials that have been used with some success by growers include Neemix and fish oil.** These products are most effective when used preventatively before weevils become established. Some growers who have applied Admire – imidicloprid on pepper indicate that there may be some activity on weevils and report that Admire has delayed infestations and possibly reduced the overall level of pepper weevil infestation. Many of the currently labeled materials are difficult to work into an IPM program once plantings begin to be harvested due to the 7 day PHI in force for all of them. This is particularly true for hot peppers which are often harvested multiple times during the course of a week.

### Thrips

**Scouts across the area are beginning to report low levels of flower thrips in pepper and tomato.** Dak Seal, Entomologist at UF/IFAS TREC notes that although chilli thrips remains absent in vegetable fields, this pest is hammering some ornamental growers. He notes that Radiant, Admire, Platinum, Orthene, and Pylon do an excellent job in providing control in ornamentals.

### Aphids

**A few winged aphids are also beginning to show up around the area.**

## **Diseases**

### **Bacterial Spot**

**Around Southwest Florida, growers and scouts report that bacterial spot pressure had slowed in tomato and pepper but note that fresh lesions are still being found on wet mornings especially in peppers.**

**Around Manatee County, bacterial spot is still widespread with both foliar and fruit lesions present.**

**Respondents in Palm Beach County report that bacterial spot incidence increased dramatically following the passage of Tropical Storm Noel but not that it appears to be slowing in response to cooler dry conditions.** Specialty tomato growers note a great deal of variation in incidence and severity of infections depending on the variety.

**Growers and scouts in Homestead report bacterial spot is present in tomato.**

### **Bacterial Blight**

**Bean growers around Hendry County are reporting some problems with bacteria.**

**Respondents in Homestead are also reporting some problems with bacteria on beans.**

**Common bacterial blight (caused by *Xanthomonas campestris* pv. *Phaseoli* is the only bacterial disease of importance in Florida.** It is an occasional disease that becomes more severe in years of higher rainfall during the winter months.

**Under wet conditions, bacteria can be spread by windblown rain, overhead irrigation, or mechanical means.** When infected, older plants develop water-soaked spots that are more evident on the lower leaf surface. The spots later turn brown with a yellow halo, and large areas of dead tissue can result. Spots also develop on pods, starting out as water-soaked areas that later develop brick-colored borders.

### **Target Spot**

**Around Manatee County reports indicate that target spot is widely present on tomato and note that in a number of locations it is easy to find lots of plants with no bottoms.**

**Growers and scouts around Immokalee report that target spot is present on tomato at multiple locations around Immokalee where it is working on the lower canopy of older plantings.**

**Target spot is being reported on tomatoes from locations around Homestead.**

### **Downy Mildew on Basil**

**Downy Mildew has been reported on downy mildew in at least three locations around south Florida.** It has also been confirmed at the plant disease clinic in Immokalee. Downy mildew is a new disease on basil in Florida and may be related to a downy mildew that has been seen in Europe on greenhouse-grown basil in Italy and Switzerland.

**The greenhouse industry has also reported that a new downy mildew that affects coleus has recently been discovered in multiple locations around the United States and is causing alarm for both coleus growers**

**and researchers.** This new coleus downy mildew disease is caused by a microorganism that may be new to North America.

**Tests of coleus downy mildew DNA, however, have indicated that it is a different species — one that has previously been seen in Europe on greenhouse-grown basil in Italy and Switzerland.** For now, the coleus pathogen can be referred to as *Peronospora* sp. It is known that it can infect both coleus and basil, but the possibility it can go to additional plant hosts certainly exists.

**Growers should be aware that downy mildew can be explosive when the weather is wet and humid.** The downy mildew pathogen requires free moisture from condensation or watering on the plant surface to germinate. Reports indicate that some growers have had difficulty achieving satisfactory control.

**Downy mildew has the bad habit of changing and becoming resistant to the systemic fungicides.** Alternating systemic and protectant materials with different activities will help guard against the development of pesticide resistance in this downy mildew.

**Dr Rick Raid, Pathologist EREC in Belle Glades and Dr Pam Roberts, Pathologist SWFREC are currently investigating this disease and are conducting fungicide tests with a number of materials to determine efficacy against this pathogen.** Experience with coleus reported in Greenhouse Product News indicates that many of the products labeled for downy mildew in other crops provide good control of this pest. Be sure to check the label to make sure it is registered for use on basil.

### **Choanephora Blight**

**Growers and scouts report that Choanephora blight, caused by the fungus *Choanephora* sp., is widely present on bell pepper and cucumbers, green beans, squash in numerous locations across South Florida including Homestead and the Glades, as well as several locations on the East Coast and Southwest Florida.** Drier conditions over the past week have reduced incidence and severity of this disease.

**Outbreaks of Choanephora blight are associated with extended rainy periods and high temperatures.** Leaf area may appear water-soaked and margins and leaf tips blighted. Older lesions appear necrotic and dried out. The dark-gray fungal growth may be apparent on some lesions. Under magnification, a silvery, spine-like fungal mycelia with a dark head is seen. Symptoms may be confused with *Phytophthora* blight (*Phytophthora capsici*) when young or spray burn on bean plants with older symptoms.

**There are few management techniques available, but fungicidal sprays may reduce disease damage.** The approaching cold front will dramatically reduce the incidence and severity of this disease.

### **TYLCV**

**Around Southwest Florida, tomato yellow leaf curl virus remains mostly low at 1 % or less.**

**Around Manatee County, tomato yellow leaf curl virus is widely present at mostly low levels although some hotspots with higher incidence have been reported.**

**A few scattered reports of mostly single plants showing TYLCV symptoms are also trickling in from around Palm Beach County.**

**Very low TYLCV is present in the Homestead area.**

### **Southern Blight**

**Growers and scouts in SW Florida and in Manatee area report finding a few mostly single plants with southern blight which is about normal for this time of year.**

### **Gummy Stem Blight**

**Growers and scouts Around Manatee County continue to report some problems with gummy stem blight in melons.**

**Gummy stem is also causing problems on melons around Immokalee.**

### **Downy Mildew**

**Growers and scouts around South Florida are reporting some scattered problems with downy mildew on cucurbits.** Drier weather the last few days seems to have helped slow the spread.

**Downy mildew is a common problem for Southeastern vegetable growers and a new strain that can be devastating to cucurbits has been found throughout the Southeast, prompting vegetable specialists to encourage growers to pay special attention to managing the disease.**

**Downy mildew, caused by the fungus *Pseudoperonospora cubensis*, is found annually on squash, cucumbers, pumpkins, and muskmelons grown in all areas.** Although downy mildew of all cucurbits is caused by the same species, strains of *P. cubensis* exist. For example, it is not uncommon to see squash, cantaloupe, and cucumber severely diseased by downy mildew, whereas watermelons, nearby, show no signs of the disease. A particularly troublesome strain of downy mildew began showing up around the Southeast around 3 years ago devastating cucurbit crops.

**Downy mildew causes severe vine and leaf problems, which reduces the number and size of fruit.**

Typically, the disease does not cause fruit rot, as is the case with many cucurbit diseases, but it does reduce sugar content, especially in watermelons and cantaloupe.

**The best time to look for spores is in the morning before dew has dried.** The spores are brownish-purple and the mold growth is white to colorless.

**Symptoms on watermelon are different than symptoms on other cucurbits.** Leaf spots on watermelon are dark brown and irregular in shape. Slight yellowing may be seen around the edges of the spots or in small patches in other parts of the leaf. Leaves that are infected curl inward as the leaves die.

**Gummy stem blight is often confused with downy mildew damage on watermelon.** For growers not familiar with the two diseases, growers should look at the size, shape and position of leaf spots. Leaf spots on plants infected with gummy stem blight are much larger individual spots of downy mildew, he explains.

**Growers who find downy mildew in their crops are faced with some difficult challenges.** The best approach in managing the disease is to alternate available fungicides and to mix the newer more efficacious materials with chlorothalonil or mancozeb, which have been used to manage fruit and vegetable diseases for many years.

**Mobile (systemic, translaminar) fungicides with an active ingredient that specifically targets oomycete fungi are recommended beginning when downy mildew is forecast to occur in the area or symptoms have just started to develop.**

**These materials can be applied every 5-7 days, depending on disease severity.** Fungicide resistance is a concern with downy mildew and with these fungicides due to their specific mode of action. Alternating among

systemic fungicides in different chemical classes and tank-mixing with protectant fungicides when the systemic is not formulated with a protectant are highly recommended, as is planting resistant varieties when possible. Fortunately growers have several systemic fungicides available to manage this rapidly changing disease.

**Both downy mildew and powdery mildew have shown an ability to adapt to fungicides.** In 2005, researchers in Georgia and North Carolina documented resistance of these diseases to strobilurin fungicides, which had provided easy and relatively inexpensive management for a number of years. Fortunately a number of good fungicides remain available to growers.

**Of the fungicides available, Tanos and Previcur Flex have provided consistent protection from the newer strains of downy mildew.**

**Tanos, which is marketed by DuPont, is labeled for use in commercial and/or farm plantings on cucurbits (including cantaloupe, cucumber, honeydew melon, muskmelon, watermelon, pumpkin, summer squash, and other cucurbits), head lettuce, peppers, potatoes and tomatoes.**

**Tanos contains 25 percent cymoxanil and 25 percent famoxadone. Famoxadone is an oxazolidinedione contact fungicide and affects susceptible fungal pathogens through inhibition of mitochondrial respiration.** The maximum application rate is 72 ounces of product per acre per year (1.1 pound per acre/year of cymoxanil and 1.1 pound per acre per year of famoxadone).

**Previcur Flex, marketed by Bayer Crop Protection, is a fully systemic fungicide that penetrates the leaf and stem surface and moves throughout the plant to protect new growth.** A long-time favorite of potato and vegetable growers, this fungicide has flexible use rates and application timing can be used with a variety of tankmix partners to control early blight, late blight and downy mildew.

**Broad-spectrum contact fungicides (Bravo, Maneb, Dithane, copper), used to protect against infection, provide some downy mildew control.**

**Researchers in North Carolina, who regularly conduct fungicide efficacy trials for downy mildew rated chlorothalonil better than mancozeb and maneb, both of which were rated higher than copper.**

**Forum (dimethomorph), is a new 2006) formulation labeled for use at 6 ounces per acre tank-mixed with a protectant fungicide, such as chlorothalonil, on a 5-10 day schedule for a maximum of five times with no more than two sequential applications.**

**Gavel (mancozeb and zoxamide) can be used on cucumber, melon, summer squash, and watermelon.** Gavel is labeled for use at 1.5 to 2.0 pounds per acre and can be applied every 7-10 days, or when conditions are favorable for disease for a maximum of eight applications.

**New phosphorus acid fungicides, including Phostrol, ProPhyt, and Fosphite) can be applied to cucurbits at 2.5-5 pints per acre on a 7-14 day interval up to 6-7 times per crop per season.** Phosphite ion, the active ingredient for these fungicides, effects fungal pathogens directly and promotes the plant's defense system.

**Ranman is labeled for use at 2.1-2.75 fluid ounces per acre on a 7-10 day schedule for a maximum of six applications per season.** This fungicide has some specific use limitations and should be used in a tank-mix with a protectant fungicide.

**Cucurbit downy mildew updates are available from the North American Plant Disease Forecast Center at <http://www.ces.ncsu.edu/depts/pp/cucurbit/> or by contacting vegetable specialists at any Land-Grant University.** Excerpted from Roy Roberson, SE Farm Press, 11/14/07



## Powdery Mildew

Scattered reports of powdery mildew on cucurbits have been received from across the area. Incidence and occurrence remains low.

## Alternaria

Alternaria is beginning to be reported on beans and tomatoes from a number of locations around South Florida

## Botrytis

**Problems with botrytis on pepper have been reported around Immokalee and in Manatee County. Botrytis is most severe on plants grown in acidic, sandy soils with high soil moisture.** Adequate calcium should be available and uniform soil moisture maintained for maximum calcium availability. Calcium to phosphorus ratio of 2 or higher in leaf petiole tissue has been demonstrated to aid in control. Growers are advised to scout for this disease, which is difficult to distinguish from other diseases; thus, emphasizing the need for laboratory confirmation prior to control measures.

**In addition to standard fungicides, Topsin (Ceraxagri) is labeled for white mold but also has activity against botrytis.** Endura (BASF) has recently been labeled for fruiting vegetables for control of botrytis but reportedly will not be available until sometime this winter due to production limitations. Phyllis Gilreath notes that results from grower trials being conducted indicate Topsin and Endura have good activity after several applications.

## Post Harvest Diseases

Some problems with Erwinia have been reported on tomatoes around Manatee County.

**UF/IFAS is working diligently to understand all the variables which have been contributing to the postharvest problems over the last few seasons.** In order to help us do this, we ask that you please contact your county agent if postharvest problems do show up. Hopefully you will also be able to provide field records including rainfall, time of harvest, cultivar, plant condition (i.e. wet when picked), and any other information you have which may be a factor. Also, if problems show up in one field and not another, it would be very helpful to know what fungicide treatments were applied to the fields prior to harvest, especially if there are differences.

**If you have any questions or wish to report problems that may show up, please contact your local vegetable extension agent or Dr. Jerry Bartz in Gainesville.** For those who did not receive the special research report "Critical Issues in Tomato Production in Florida". at the Tomato Institute in September, please contact your agent and we will get you a copy. This report addresses rapid fruit breakdown, sour rot, and discusses some of the problems from last season as well as preventative measures.

## **News You Can Use**

**Dry Season Has Begun Across South Florida... La Nina likely to bring drier than normal conditions next winter and spring to South Florida...**

The cold front which moved through South Florida the first weekend in November has ushered in the dry season across the region. This year's dry season began on November 3, which is about 17 days later than the median start date of October 17. The rainy season of 2007 began on May 14, except over interior and western

sections where it began on June 1, and ended on November 2. The duration of the 2007 rainy season was 173 days, except 155 days interior and west. This is compared to the average duration of 153 days.

Rainy season precipitation varied greatly between the east coast metro areas and the interior and western portions of south Florida. The east coast metro areas averaged around 45 inches of rain between May 14 and November 2, which is about 10 inches above normal. Most interior and western sections, however, averaged only around 30 inches, which is about 5 inches below normal. Therefore, some areas of South Florida did not benefit from this year's longer rainy season, which did little to alleviate the drought conditions present across the area since March.

The climatological outlook for the upcoming winter and spring seasons of 2007-2008 is for moderate La Nina conditions over the Pacific Ocean. La Nina is characterized by a cooling of Equatorial Pacific Ocean waters which typically reaches its peak in December and January. This cooling of the Pacific to below normal values affects large scale weather systems worldwide. Over the Southeastern United States, including Florida, the typical main impact of La Nina is a drier than normal winter and spring.

This year's relative lack of rainy season precipitation over interior and western south Florida means that the area around Lake Okeechobee continues under severe drought conditions, with moderate drought conditions observed over Collier County including the Greater Naples area. If the present La Nina continues to develop as forecast, there is an increased likelihood that South Florida will experience below normal rainfall during the dry season which encompasses most of the winter and spring seasons. This could significantly worsen the drought conditions already being observed.

It should be noted that seasonal forecasts of precipitation are subject to large errors, and caution should be used when interpreting these forecasts. Nevertheless, long term outlooks from NOAA's Climate Prediction Center, along with analysis of previous La Nina events of similar magnitude, suggests that there is a greater than normal likelihood of below normal precipitation across south Florida this upcoming winter and spring.

Statistical studies have shown that the probability of below normal precipitation during moderate La Nina conditions is 3 to 4 times greater than the probability of above normal precipitation for South Florida. This is reflected in the Climate Prediction Center outlook for this cold season, and does not bode well for the Lake Okeechobee system which is already approximately 5 feet below seasonal norms.

The increased probability of dryness is due to the more northern position of the jet stream across North America typically observed during La Nina winters and springs. This causes cold fronts that pass through Florida to have little moisture, therefore producing less rainfall.

Temperatures signals during La Nina winters and springs are often not as well defined. However, the tendency is for generally warmer winter and spring months as less cold fronts move through south Florida. Even with warmer winters, the La Nina pattern can produce brief but intense cold outbreaks and freezes to portions of South Florida. For example, the La Nina winters of 1985 and 1996 saw freezing temperatures over much of South Florida.

### **Researchers Identify Cause of Watermelon Vine Decline**

With popular and nutritious watermelon now battling a new plague called watermelon vine decline, Agricultural Research Service (ARS) scientists in Fort Pierce, Fla., are trying to pinpoint the cause of the disease and find ways to control it.

A crippling plant disease, watermelon vine decline (WVD) has made a serious economic impact since first being seen in Florida in May 2003. So far, it has been limited to the Sunshine State, but growers fear it could

spread anywhere watermelons are commercially grown. Research efforts are being led by plant pathologist Scott Adkins, who's in the ARS Subtropical Plant Pathology Research Unit at Fort Pierce.

Symptoms of WVD include interior browning of the fruit rind, rapid vine collapse and death just before harvest.

Yield losses totaled more than \$60 million in 2005, knocking Florida watermelon producers into the No. 2 spot, behind Texas.

Plant pathologist Benny Bruton has worked with Adkins since the initial stages of WVD research, and plant pathologist Shaker Kousik joined the effort in November 2005. Bruton is at the ARS South Central Agricultural Research Laboratory in Lane, Okla., while Kousik is at the ARS U.S. Vegetable Laboratory in Charleston, S.C.

Bacteria, fungi and non-biological factors had been previously eliminated as the cause of WVD by other researchers. Then Adkins—in collaboration with Susan Webb, a University of Florida entomologist, and Carlye Baker, a plant pathologist with the Florida Department of Agriculture and Consumer Services, Division of Plant Industry—determined that the novel ipomovirus named squash vein yellowing virus is the causal agent. The host range of squash vein yellowing virus appears to be limited to the Cucurbitaceae family, with the most dramatic symptoms occurring on squash and watermelon.

It had been known for some time that the principal insect pests on watermelons in Florida were aphids, rindworms, whiteflies and thrips, but it took two years of research to determine that squash vein yellowing virus, transmitted by the silverleaf whitefly, was responsible for WVD.

Screening of watermelon germplasm for resistance to squash vein yellowing virus in greenhouse trials in Fort Pierce and field trials with University of Florida scientists has yielded promising results.

ARS, November 8, 2007

## **FAWN News**

The Florida Automated Weather Network (FAWN) is pleased to announce the release of its new-and-improved Internet site. The site has been completely overhauled with a new user interface, database, and web and data servers. The user interface features a completely new look, streamlined navigation, and access to additional resources. The entire FAWN database has been updated to a new, more standardized and efficient format. All this, operating on new servers monitored 24/7 by UF personnel, will provide the user with faster, more reliable access to FAWN data, tools, and other resources. Several new tools have been added, including an Urban Irrigation Scheduler.

A new FAWN Station was installed in Clewiston in late October and should be on-line and available through the FAWN website in the near future.

## **Pesticide Registrations and Changes**

### **Third Party Label for Cobra Herbicide**

Cobra Herbicide has received a label through Third Party Registrations, Inc. (TPR) for use in plastic-mulched fruiting vegetable crops and okra pre-transplant or post-transplant (post emergence in okra) to row middles. All applications must be made with shielded or hooded equipment.

Apply 16-32 fluid ounces per acre to row middles using a shielded or hooded sprayer. A minimum of 24 fluid ounces per acre is required for residual control of weeds. An adjuvant, such as crop oil concentrate at 1% v/v or a non-ionic surfactant at 0.25% v/v should be used for control of emerged weeds. Do not make more than 2 Cobra applications per growing season. Do not make more than 1 post transplant application.

Applications should be made in a spray volume of 20-50 gallons per acre. Do not exceed 35 psi at the nozzle or apply when conditions are favorable for drift. Cobra contacting green crop foliage or fruit may cause excessive injury. Drift of Cobra treated sand or soil particles onto plants can cause contact injury.

Cobra may be tank mixed with specified partners. Refer to label for recommended rates and application parameters. Do not apply within 30 days of harvest.

The supplemental label must be in the possession of the user at the time of pesticide application.

### **Registration Cancellation of Alanap L**

Chemtura has voluntarily cancelled the Alanap L herbicide registration on cucurbits with EPA. There is no limitation on when a distributor can sell Alanap or a grower can use the product until supplies are gone. The production of Alanap has ceased, but there is approx. 2.5 years supply of product at normal rates. The product should hold up well for 3 years or longer with proper storage. Growers who may want to use the product should obtain supplies as they see fit.

### **Eptam 7E 24c Label on Tomato**

Eptam 7E has received a 24c special local needs label for use on transplanted tomatoes grown on plastic mulched beds.

Application should be at 3-4 pints per acre pre-transplant to the bed top and shoulders immediately prior to the installation of the plastic mulch. Do not transplant tomato plants for a minimum of 14 days following an application of Eptam.

Weeds controlled include annual grasses, annual broadleaf weeds and purple and yellow nutsedge.

Info provided by Dr. William Stall, Professor, Horticultural Sciences Department, UF/IFAS Vegetarian, 11/07

### **PREPARATION FOR T-GAPs, T-BMP IMPLEMENTATION AND FDA TOMATO FOOD SAFETY INITIATIVE**

1.     A.     **Prepare** - Critically review your operations to ensure you are following Good Agricultural Practices and Best Management Practices - Call in IFAS or DACS to assist you in any needed areas
- B.     **Cooperate** - Cooperate with any FDA, IFAS or DACS personnel who call for locations and plantings and for those regulators visiting your operations, and
- C.     **Know** - Know the information needed (have copies and be knowledgeable about the documents listed below as well as the particulars on your own operations)
  
2.     **1998 Guide to Minimizing Microbial Food Safety Hazards for Fresh Fruits and Vegetables**  
(Can be downloaded at <http://www.cfsan.fda.gov/~dms/prodguid.html>)
  
3.     **Copy of T-GAP and T-BMP for Florida**  
(Can be downloaded at [www.research.ifas.ufl.edu/tomato](http://www.research.ifas.ufl.edu/tomato) or [www.floridatomatoes.org](http://www.floridatomatoes.org))
  
4.     **Copy of Commodity Specific Food Safety Guidelines for the Fresh Tomato Supply Chain**  
(Can be downloaded at <http://www.cfsan.fda.gov/!acrobat/tomatsup.pdf>)

5. **Crisis - Recall Plans** - you should have your own unique one for your firm - also have a copy of the Tomato Exchange Crisis Plan (available from [www.floridatomatoes.org](http://www.floridatomatoes.org))
6. **Map of your farm or firm** with details on water sources, wells, adjacent land use, etc.
7. Copies of all your **SOPs, SSOPs**, etc.
8. Copy of all **audits and records** readily available for examination
9. You don't need a copy; however, you may be interested to read the FDA Guide to Produce Farm Investigations located at <http://www.cfsan.fda.gov/~dms/prodques.html>
10. Virginia Assessment Document available through Reggie Brown or Danny Raulerson
11. Most documents as well as valuable presentations may be found at:  
[www.research.ifas.ufl.edu](http://www.research.ifas.ufl.edu)  
[www.floridatomatoes.org](http://www.floridatomatoes.org)

### **Methyl Bromide Replacement Receives EPA Registration**

Arysta LifeScience has announced that EPA has granted commercial registration for one year to Midas (iodomethane) a broad-spectrum soil fumigant that effectively controls a broad range of soilborne diseases, nematodes, weed seeds, and insects that threaten high-value crops including strawberries, tomatoes, and peppers. Midas will be available through select fumigant distributors this month.

The product was developed to help growers with the phase out of methyl bromide under the Montreal Protocol. Worldwide, about 72,000 tons of methyl bromide are used each year, according to EPA data. North America uses about 27,000 tons annually, 85% of which is used for soil fumigation.

### **Opportunity**

**United Phosphorus, Inc. is seeking a Field Development Representative for Florida.** Position is responsible for conducting and coordinating plant protection field research and demonstration trials. Candidates will be responsible for the compilation, interpretation and presentation of project data in written and oral format. Advanced degree in Plant Sciences (Entomology, Plant Pathology, or Plant Physiology). Strong inter-personal and communication skills with researchers, regulatory, marketing and sales community. Minimum of 5 years experience working with AgChem products in high value crops.

Submit resume and cover letter to: Philip W. Robinson  
United Phosphorus, Inc.  
1480 Woodpond Rdbt.  
Carmel, Indiana 46033

Voice: 317.815.9120  
Fax: 317.815.9120  
E-Mail: <mailto:phil.robinson@uniphos.com>

### **Up Coming Meetings**

Miami Dade County

December 4, 2007

Private Applicator Ag Pesticide License Training and Test

8:30 AM

John D. Campbell Ag Center  
18710 SW 288<sup>th</sup> Street  
Homestead, Florida

Pre-registration required, contact 305-248-3311 ext 242 to register.

## Palm Beach County

**December 3, 2007**      **General Standards/Core Training and Test Review** 8:00 AM – 12:00 PM

Clayton Hutchinson Ag Center  
559 N Military Trail  
West Palm Beach, Florida

Contact 561-233-1700 – select option, 1 then option 3

## Southwest Florida

**December 14, 2007**      **Fall Vegetable Field Day**

UF/IFAS SW Florida Research and Education Center  
SR 29 N  
Immokalee, Florida

Contact Gene McAvoy at 863-674-4092 for details

## Other Meetings

**November 28, 2007**      **FDA Florida Food Safety Initiative Kickoff**

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

Contact Martha Roberts at 850-509-7282 or [mroberts@ifas.ufl.edu](mailto:mroberts@ifas.ufl.edu)

**December 6 -7, 2007**      **Florida Ag Expo**

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

The Florida Ag Expo will offer in-depth education sessions will cover a wide array of timely topics important to growers and their operations. The Expo will also feature extensive indoor and outdoor exhibit areas for "hands-on, in-person" previews of the latest products, equipment and services. For more information and to register, go to <http://www.floridagrower.net/agexpo/registration.html>

## Websites

**UF/IFAS GulfCoast Research and Education Center watermelon website** – Dr Don Maynard has assembled a wealth of information on melons including recommended varieties for Florida, yield data, varietal descriptions and photos, pest and disease info and photos and more. Go to <http://watermelons.ifas.ufl.edu/>

**Where's George** - Do you ever wonder where that paper money in your pocket has been, or where it will go next? This is the place to find out. All you need to do is enter the denomination, series, and serial number of any US dollar bill, and your current USA ZIP or Canadian Post Code. Go to <http://www.wheresgeorge.com/>

## Quotable Quotes

The optimist proclaims that we live in the best of all possible worlds; and the pessimist fears this is true. - James Branch Cabell

We cannot always build the future for our youth, but we can build our youth for the future. - Franklin D. Roosevelt

You can only be young once. But you can always be immature. - Dave Barry

Boyhood, like measles, is one of those complaints which a man should catch young and have done with, for when it comes in middle life it is apt to be serious. - P. G. Wodehouse

Genius may have its limitations, but stupidity is not thus handicapped. - Elbert Hubbard

It has been my experience that folks who have no vices have very few virtues. - Abraham Lincoln

## On the Lighter Side

### Black November – a Turkey's side of the Story

When I was a young turkey, new to the coop,  
My big brother Mike took me out on the stoop,  
Then he sat me down, and he spoke real slow,  
And he told me there was something that I had to know;  
His look and his tone I will always remember,  
When he told me of the horrors of..... Black November;  
"Come about August, now listen to me,  
Each day you'll get six meals instead of just three,  
"And soon you'll be thick, where once you were thin,  
And you'll grow a big rubbery thing under your chin;  
"And then one morning, when you're warm in your bed,  
In'll burst the farmer's wife, and hack off your head;  
"Then she'll pluck out all your feathers so you're bald 'n pink,  
And scoop out all your insides and leave ya lyin' in the sink;  
"And then comes the worst part!" he said not bluffing,  
"She'll spread your cheeks and pack your rear with stuffing".  
Well, the rest of his words were too grim to repeat,  
I sat on the stoop like a winged piece of meat,  
And decided on the spot that to avoid being cooked,  
I'd have to lay low and remain overlooked;  
I began a new diet of nuts and granola,  
High-roughage salads, juice and diet cola;  
And as they ate pastries, chocolates and crepes,  
I stayed in my room doing Jane Fonda tapes;

I maintained my weight of two pounds and a half,  
And tried not to notice when the bigger birds laughed;  
But 'twas I who was laughing, under my breath,  
As they chomped and they chewed, ever closer to death;  
And sure enough when Black November rolled around,  
I was the last turkey left in the entire compound;  
So now I'm a pet in the farmer's wife's lap;  
I haven't a worry! , so I eat and I nap;  
She held me today, while sewing and humming,  
And smiled at me and said: "Christmas is coming..."

## **A Thanksgiving Prayer**

"O God, when I have food, help me to remember the hungry;  
When I have work, help me to remember the jobless;  
When I have a home, help me to remember those who have no home at all;  
When I am without pain, help me to remember those who suffer,  
And remembering, help me to destroy my complacency; bestir my compassion, and be concerned enough to help; by word and deed, those who cry out for what we take for granted.  
Amen."

## **Wishing all the best to all of you all for a happy and healthy Thanksgiving Holiday**

**Contributors** include: Joel Allingham/AgriCare, Inc, Bruce Corbitt/West Coast Tomato Growers, Dr. Phyllis Gilreath/Manatee County Extension, Michael Hare/Drip Tape Solutions, Fred Heald/Farmers Supply, Sarah Hornsby/AgCropCon, Cecil Howell/Taylor & Fulton, Loren Horsman/Glades Crop Care, Bruce Johnson/General Crop Management, Dr. Mary Lamberts/Miami-Dade County Extension, Leon Lucas/Glades Crop Care, Bob Mathews, Glades Crop Care, Mark Mossler/UF/IFAS Pesticide Information Office, Gene McAvoy/Hendry County Extension, Alice McGhee/Thomas Produce, Jimmy Morales/Pro Source One, Dr. Gregg Nuessly/EREC Chuck Obern/C&B Farm, Teresa Olczyk/ Miami-Dade County Extension, Dr. Aaron Palmateer/TREC, Dr. Ken Pernezny/EREC, Dr. Rick Raid/ EREC, Dr Pam Roberts/SWFREC, Dr. Nancy Roe/Farming Systems Research, Wes Roan/6 L's, Dr. Dak Seal/ TREC, Kevin Seitzinger/Gargiulo, Jay Shivler/C&B Farm, Ken Shuler/Stephen's Produce, Ed Skvarch/St Lucie County Extension, John Stanford/Thomas Produce, Mike Stanford/MED Farms, Dr. Phil Stansly/SWFREC, , Mark Verbeck/GulfCoast Ag, and Alicia Whidden/Hillsborough County Extension.

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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