



UNIVERSITY OF  
FLORIDA

E X T E N S I O N

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# SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE

January 2, 2009

**Warmer weather conditions prevailed over the past few weeks with temperatures running a few degrees above normal across south Florida finally bringing more favorable growing conditions to the region.** Daytime temperatures were in the 70's and 80s with lows ranging in the 40s to 60s.

**It has been mostly dry across south Florida with most places reporting only trace amounts of rain for the period.** Although rain fall accumulation has been low, there was two days of misty rain around Christmas as well as a number of foggy mornings and heavy dew falls has favored disease development with a number of growers and scouts reporting significant increases in disease issues.

## FAWN Weather Summary

Date	Air Temp °F		Rainfall (Inches)	Ave Relative Humidity (Percent)	ET (Inches/Day) (Average)
	Min	Max			
<b>Balm</b>					
12/12/08 – 1/2/09	37.34	83.23	0.03	76	0.06
<b>Belle Glade</b>					
12/12/08 – 1/2/09	47.32	81.37	0.13	83	0.06
<b>Clewiston</b>					
12/12/08 – 1/2/09	42.6	82.04	0.04	76	0.06
<b>Ft Lauderdale</b>					
12/12/08 – 1/2/09	54.01	84.02	0.15	80	0.06
<b>Fort Pierce</b>					
12/12/08 – 1/2/09	NA	81.54	0.33	79	0.06
<b>Homestead</b>					
12/12/08 – 1/2/09	51.15	82.4	0.6	81	0.06
<b>Immokalee</b>					
12/12/08 – 1/2/09	42.98	85.48	0.02	81	0.06

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**Over all most crops are looking good but prices have been in the dumper since the Christmas holiday.** Crops coming to market include beans, cucumbers, eggplants, okra, peppers, squash, sweet corn, tomatoes, watermelon, and specialty crops including basil with volumes beginning to increase seasonally around South Florida.

**The short-term forecast from the National Weather Service in Miami calls for a mainly a dry forecast through the weekend and through the early part of next week.** Models continue to suggest a cold front sweeping through south Florida late Wednesday into Thursday with some shower activity associated with it. A strong ridge is forecast to build behind the front across the northern gulf and extend across the peninsula which should help to push the front through the region quickly bringing some cooler weather to the region but is too far into the extended forecast to have enough confidence to say just how significant the impact will be....so growers and other interests will have to monitor the consistency of the guidance over the next several days. For additional information, visit the National Weather Service in Miami website at <http://www.srh.noaa.gov/mfl/newpage/index.html>

## **Insects**

### **Leafminers**

**Growers and scouts around Southwest Florida leafminer indicate that leafminer pressure continues to increase across all crops and pressure ranges from moderately low to horrible in some locations.**

**Reports from the Glades indicate that scouts are finding new leafminer activity on leaf crops.**

**Respondents around Palm Beach and the East Coast indicate that leafminer pressure remains fairly consistent at moderate levels in squash, tomato and eggplant.**

**Reports from Homestead indicate that leafminer numbers are increasing across a variety of crops.**

**Growers and scouts in Manatee County report that leafminer are widely present.**

**A number of growers across South Florida report good results with Coragen which has virtually eliminated leaf miner pressure on many farms.** They also note improved populations of beneficials settling in on farms where broad spectrum sprays have been reduced.

**At least 14 species of hymenopterous (wasp) parasites attack *Liriomyza* spp. leafminers on non-sprayed tomatoes in Florida.** Four parasite species predominate: *Diglyphus intermedius*, *D. begini*, *Neochrysocharis* (= *Chrysonotomyia*) *punctiventris* and *Opius dissitus*.

**Up to 90% parasitism in non-sprayed tomatoes has been observed in Florida.** In commercial tomatoes using selective insecticides to kill leafminers and conserve parasites, parasitism can reach 100%.

**To determine whether leafminer larvae are dead or alive, leaflets are removed from the plant, held up to the sun and examined with a hand lens.** Living larvae are a pale yellow and flush with the end of the mine. The back and forth feeding movements of the mouth hooks is readily visible, although movement may cease momentarily when larvae are disturbed or may cease for an extended time when larvae are molting. Dead larvae do not show mouth hook movement and are usually discolored and removed from the ends of mines.

**The relative toxicity of selected pesticides to parasites of leafminers should be considered.** Some pesticides like methomyl are highly toxic to all life stages of all natural enemies evaluated while others, like methamidophos, are highly toxic to some life stages of natural enemies but not all. Some insecticides like azadirachtin were moderately toxic to some life stages and relatively non-toxic to most others while others like

*Bacillus thuringiensis* and cyromazine were relatively non-toxic to all life stages of all natural enemies evaluated. Therefore, it is important that the scouting program include not only an assessment of the pests present but also the natural enemies, including the specific life stage(s). If these guidelines are followed, conservation of natural enemies through the use of timed applications of selective insecticides for the above pests can not only be feasible but can be a reality.

## **Whiteflies**

**Respondents around Palm Beach report that whitefly numbers are beginning to increase especially in older plantings**

**Reports from around Manatee County indicate that whitefly numbers are reaching season highs in a number of tomato fields nearing termination.**

**Around SW Florida, whitefly pressure is increasing with numbers going up and down but in general is below normal for this point in the season.** With poor crop prices causing some growers to curtail spraying and some early plantings of tomatoes starting to be destroyed, we may see increased whitefly activity over the next few weeks.

**Respondents in Homestead indicate that whitefly populations are building in cucurbits and tomatoes.**

## **Recommendations**

**A. Crop Hygiene** - Field hygiene should be a high priority and should be included as an integral part of the overall strategy for managing whitefly populations, TYLCV incidence, and insecticide resistance.

- Disrupt the virus-whitefly cycle in winter by creating a break in time and/or space between fall and spring crops, especially tomato.
- Destroy the crop quickly and thoroughly, killing whiteflies and preventing re-growth.
- Promptly and efficiently destroy all vegetable crops within 5 days of final harvest to decrease whitefly numbers and sources of plant begomoviruses like TYLCV.
- Use a contact desiccant (“burn down”) herbicide in conjunction with a heavy application of oil (not less than 3 % emulsion) and a non-ionic adjuvant to destroy crop plants and to kill whiteflies quickly.
- Time burn down sprays to avoid crop destruction during windy periods, especially when prevailing winds are blowing whiteflies toward adjacent plantings.
- Destroy crops block by block as harvest is completed rather than waiting and destroying the entire field at one time.

**B. Other Cultural Control Practices** - Reduce overall whitefly populations, regardless of biotype, and avoid introducing whiteflies and TYLCV into crops by strictly adhering to correct cultural practices.

- Plant whitefly and virus-free transplants.
- Do not plant new crops near or adjacent to old, infested crops.
- Use determinant varieties of grape tomatoes to avoid extended crop season.
- Use TYLCV resistant tomato cultivars where possible and appropriate, especially during historically critical periods of virus pressure. Whitefly control must continue even with use of TYLCV resistant cultivars because these cultivars can carry the virus.
- Use ultraviolet light reflective (aluminum) mulch on plantings that growers find are historically most commonly infested with whiteflies and infected with TYLCV.
- Apply an effective insecticide to kill whitefly adults prior to cultural manipulations such as pruning, tying, etc.

- Rogue tomato plants with symptoms of TYLCV at least until second tie. Plants should be treated for whitefly adults prior to roguing and, if nymphs are present, should be removed from the field, preferably in plastic bags, and disposed of as far from production fields as possible.
- Manage weeds within crops to minimize interference with spraying and to eliminate alternative whitefly and virus host plants.
- Dispose of cull tomatoes as far from production fields as possible. If deposited in pastures, fruit should be spread instead of dumped in a large pile to encourage consumption by cattle. The fields should then be monitored for germination of tomato seedlings, which should be controlled by mowing or with herbicides if present.
- Destroy old crops within 5 days after harvest, destroy whitefly infested abandoned crops, and control volunteer plants with a desiccant herbicide and oil.

### **C. Insecticidal Control Practices.**

- Delay resistance to neonicotinoid and other insecticides by using a proper whitefly insecticide program. Follow the label!
- Use neonicotinoids in the field only during the first six weeks of the crop, thus leaving a neonicotinoid-free period at the end of the crop.
- As control of whitefly nymphs diminishes following soil drenches of the neonicotinoid insecticide or after more than six weeks following transplanting, use rotations of insecticides of other chemical classes including insecticides effective against biotype Q. Consult the Cooperative Extension Service for the latest recommendations.
- Use selective rather than broad-spectrum control products where possible to conserve natural enemies and enhance biological control.
- Do not apply insecticides on weeds on field perimeters. These could kill whitefly natural enemies and, thus, interfere with biological control, as well as select for biotype Q, if present, which is more resistant to many insecticides than biotype B.
- Soil applications of neonicotinoid insecticides for whitefly control.
- For best control, use a neonicotinoid as a soil drench at transplanting, preferably in the transplant water.
- Soil applications of neonicotinoids through the drip irrigation system are inefficient and not recommended.
- Do not use split applications of soil drenches of neonicotinoid insecticides (i.e. do not apply at transplanting and then again later).
- Foliar applications of neonicotinoid insecticides for whitefly control.
- Foliar applications, if used instead of or in addition to soil drenches at transplanting, should be restricted to the first 6 weeks after transplanting. Do not exceed the maximum active ingredient per season according to the label.
- Follow scouting recommendations when using a foliar neonicotinoid insecticide program. Rotate to non-neonicotinoid insecticide classes after the first 6 weeks and do not use any neonicotinoid class insecticides for the remaining cropping period.

Lastly look out for your neighbor's welfare and do unto your neighbor as you would have him do unto you. This may be a strange or unwelcome concept in the highly competitive vegetable industry but it is in your best interest to do just that. Growers need to remember that to effectively combat TYLCV and prevent the development of pesticide resistant whitefly populations area wide effort is required.

### **Aphids**

**Around the Glades and other parts of south Florida, aphid numbers have been increasing on a number of crops, oriental crucifer, cabbage, cucurbits, and beans.** Chinese cabbage in particular has had some very high apterous numbers in the past 2 weeks in south Florida.

**Scouts around Palm Beach report a few winged aphids are moving around and are being found in a variety of crops including eggplants, tomato and pepper with some colony formation noted in eggplant and pepper.**

**Growers and scouts in Immokalee report aphids are still moving around with some colony formation noted in some fields.**

**Reports from Manatee County indicate aphids are widely present at mostly low levels.**

### **Worms**

**Around Southwest Florida, worms are still active and pressure has been on the increase over the past few days.** Activity has been higher in pepper than tomato with a mixed bag of beet and southern armyworm as well as loopers being detected.

**Reports from Palm Beach indicate that worm pressure is mostly low to moderate with some higher populations of fall armyworm present in places.** Southern and beet armyworms along with loopers and a few tomato fruitworms are present.

### **Broad mites**

**Around Southwest Florida, broadmites continue to be active in pepper and eggplant.**

**Broad mites remain widely present across scattered locations around Palm Beach County primarily on basil, pepper and eggplant.**

### **Spider mites**

**Growers in scouts across south Florida report a few scattered problems with spider mites in cucurbits and eggplants.**

### **Pepper weevils**

**Around Southwest Florida, scouts report pepper weevils are continuing to spread and some larvae have been found in younger fields and populations continue to increase in some older fields.**

**Respondent in the Palm Beach area report that pepper weevils is now established and numbers increasing in some older fields and note that there has been some movement into younger plantings.**

### **Thrips**

**Growers and scouts in Palm Beach County report finding some western flower thrips in pepper and eggplant causing fruit and foliar damage.** They note that problems are more severe where broad spectrum insecticides have been applied.

**Elsewhere only Florida flower thrips have been reported and remain at very low levels over all.**

**Diseases** – growers and scouts are reporting a significant increase in disease issues over the past few weeks. With foggy mornings and heavy dews and the presence of disease, growers would be well advised to examine their spray program and tighten up spray intervals.

## **Late Blight**

**Over the past few weeks following an initial report of Late blight in Immokalee, late blight has been found on tomatoes at two additional sites, at one location south of Immokalee and another in Lee County.**

**Late blight is caused by the fungus *Phytophthora infestans*, which is a pathogen of potato and tomato.** This disease can spread quickly and devastate a tomato or potato field within a few weeks if not properly controlled.

**The disease thrives under cool and wet conditions.** Temperatures between 50 and 80 F combined with moist conditions such as rain, fog, heavy dews, or relative humidity above 90 percent are conducive for disease development. Night temperatures in the mid-fifties with daytime temperatures from the mid-fifties to mid-seventies are ideal for this disease.

**Since the disease can spread so rapidly, growers should scout their fields thoroughly each day, especially when cool and wet conditions conducive to disease development prevails.**

**Late blight symptoms on leaves appear as irregularly shaped brown to purplish lesions with indefinite border lesions that can span veins.** The lesions may be seen any time of day, on any stage of plant growth and on leaves of any age. Velvety, white fungal growth may appear on the lower surface of affected leaflets early in the morning before leaves dry and/or in the lower canopy.

**On stems, purplish lesions may be found any where on the stem.** Cottony, white growth of fungus on stems with lesions can often be seen early in the morning and/or in the lower canopy. Stems with lesions are brittle and break easily. Lesions are confined to epidermis and cortex. Leaf rolling and wilting is often associated with stem lesions and purpling of leaflets may occur in some varieties.

**Several control measures plus observation are absolute necessities if late blight is to be properly controlled.** Potato growers should purchase certified, disease-free seed pieces and store seed in a dry location before planting.

**Other important cultural controls include destruction of cull piles and volunteer potato or tomato plants.** Plant resistant varieties.

**Begin a spray program with fungicides if late blight is in your area or weather conditions are suitable for late blight development.** After harvest, kill infected foliage to minimize tuber infection.

**Tomato growers should purchase disease-free transplants.** Observe your fields thoroughly each day, especially when cool and wet weather prevails.

**Currently, fungicides are the most effective means of controlling late blight and will remain the primary tool until cultivars with resistance to this disease become available.** Fungicides slow the rate at which the disease develops in the field by creating a protective barrier on the foliage. Just applying a chemical, however, does not necessarily equate with effective disease control. Relative effectiveness of a product, coverage, and timing must be factored into the equation for maximum benefit.

**Numerous fungicide products are registered for late blight control. Protectants, as the name implies, protect foliage from infection by spores.** Protectant chemicals must be well distributed over the leaf surface and must be applied before spores land on leaves. They are ineffective against established infections.

**Systemic products become distributed locally within plant tissues and protect foliage from infection by spores.** They may kill some established infections and may suppress production of new spores. Even a short

break in spray schedules, despite what is said regarding some of the newer fungicides, can result in a dramatic increase in blight.

**In trials conducted by Pam Roberts at SWFREC in Immokalee, the old standard Bravo performed well in providing control as did Curzate, Presidio and Revus Top.** In past years, some growers have reported good results with a program of phosphonic acids in combination with Sonata.

**In Florida, it has been observed that seldom does a widespread late blight epidemic occur on tomatoes in the Manatee-Ruskin area unless the disease was present in the Immokalee area and/or Dade County.** Since late blight has been confirmed on tomato in Immokalee growers in other areas are advised to adhere to a preventative spray program.

### **Bacterial leaf spot**

**Around Southwest Florida, bacterial spot has been the big issue in both tomato and peppers.** Incidence and occurrence has flared up in a number of locations aided by a few misty days around Christmas coupled with wet foggy and relatively warm mornings and early evenings which seems to have helped the spread. In some places growers were seemingly caught unawares with bacteria all over high into the canopy.

**Respondents on the East Coast report bacterial spot incidence has also jumped up in a number of locations.**

### **Sclerotinia**

**Reports from around Southwest Florida indicate that sclerotinia has been found in pepper, tomato, eggplant and potato but overall the incidence has been low.**

**Around the Glades, growers and scouts have been finding up more white mold (sclerotinia) in beans around the muck areas, resulting from wet and foggy conditions.**

**Around Palm Beach report sclerotinia is common in a number of pepper and eggplant fields.**

**The fungus, *Sclerotinia sclerotiorum*, is responsible for a number of vegetable diseases.** Sclerotinia is particularly damaging in bean, lettuce, potato, and tomato. Common names for Sclerotinia diseases in Florida are white mold (beans), drop (lettuce), stem rot (pepper, potato and tomato), and nesting (post-harvest disease of bean).

**Sclerotinia is a fungus that prefers cool, moist weather, causing diseases of great intensity when temperatures range from 60 - 70°F (15 - 21°C).** High humidity with dew formation supports the spread and increases the severity of infections.

**A good indicator of Sclerotinia disease is the presence of small, black sclerotia (resting structures) of the fungus.** Sclerotia vary in size and shape. Sclerotia can form on the surface of plant parts as well as inside the stems of tomato and potato. The sclerotia enable the fungus to survive from season to season and are the source of inoculum to infect crops. Recycled irrigation water may move sclerotia to fields where sclerotia are not present.

**Small, mushroom-like structures called apothecia develop from sclerotia and produce infectious spores.** When the environmental conditions are correct, these spores are ejected into the air and carried to healthy plants, where they germinate and produce disease.

**Another common indicator of Sclerotinia diseases is the presence of white, cottony-like mycelium of the fungus when weather conditions are cool and moist.**

**Topsin M has given good results in the past but was being used under a Section 18 which expired December 31, 2008.** It is understood that the Section 18 will be renewed and should be in effect but there is some confusion around this issue and at present no new labels with the extended dates are available.

### **Downy Mildew**

**Around Palm Beach County, downy mildew continues to be a problem on cucumbers often hitting them early soon after planting.** Downy mildew is also common in squash. High incidence of downy mildew has also been reported in Chinese broccoli and mustard around Palm Beach.

**Growers and scouts around Southwest Florida report that downy mildew is widely present and continues to plague cucumber producers and is also an issue in squash to a lesser extent.**

**Around the Glades, very low levels of downy mildew is being reported on iceberg and leaf lettuce in glades, but there are signs of this may increase in coming weeks.**

**Across South Florida, low levels of downy mildew are being reported on cabbage and collards.**

**Downy mildew has been observed on basil, both in the greenhouse and in the field.** This disease can be of great economic significance and an entire crop can be lost without adequate management. All Florida growers should be on a preventative program with this disease.

**Around Palm Beach scouts report that occurrence is sporadic with the biggest problems in areas with a high concentration of basil and multiple plantings present and in greenhouse production.**

**Unless growing for the organic market, preventative sprays should be initiated soon after emergence with a phosphonic of demonstrated efficacy.** Stay on a strict fungicide program (1-2 sprays/wk), rotating in registered fungicides of dissimilar chemistry during alternate weeks.

**A variety trial is being initiated to examine varieties and basil types for potential resistance.** We will try to keep you posted as results are accumulated. Also, work is being initiated with IR-4 for the registration of additional fungicides for both greenhouse and field use, along with research on fungicide seed treatments. This disease is highly suspected as being seed-borne, which has resulted in its rapid spread over great distances.

**Since its original observation in Florida in 2007, it has now been observed in NJ, NY, NC, MO and Canada.** For the organic market, preventing any form of leaf wetness is your best management hope. Since this is a new disease for many, if you have questions on managing this disease, call Dr. Richard Raid at 561-993-1564.

### **Powdery Mildew**

**Growers and scouts in all areas of South Florida are beginning to report problems with powdery mildew on squash and other cucurbits.** They report that it is active moving in a number of fields in all locations.

### **Resistance Management Tips for powdery and downy mildew**

Margaret McGrath, an associate professor in plant pathology at Cornell University, and Andy Wyenandt, Extension specialist in vegetable pathology with the New Jersey Agricultural Experiment Station suggest

growers do the following to reduce resistance problems this growing season for powdery and downy mildew control.

- For powdery mildew, grow resistant varieties;
- Scout regularly;
- Initiate fungicide applications at disease onset or before;
- Alternate and tank mix fungicides at risk for resistance on a regular seven-day schedule; and Rate control achieved based on powdery mildew severity on lower leaf surfaces.

A similar strategy can be used for downy mildew control:

- Start applications before disease onset;
- Scout fields on a regular basis; and
- Frequently check the downy mildew forecasting Web site: [www.ces.ncsu.edu/depts/pp/curcurbit](http://www.ces.ncsu.edu/depts/pp/curcurbit).

### **Fusarium Crown Rot**

**More fusarium crown rot and fusarium race 3 continues to being reported on tomato from scattered locations around Manatee County again mostly in wetter fields/blocks.**

**Around Immokalee, fusarium crown rot has fired up in a number of tomato fields as they reach maturity.**

**Fusarium is also up in tomato around Palm Beach and east coast tomato production areas.**

### **Phytophthora**

**Growers and scouts around Palm Beach report a few problems with *Phytophthora* primarily in fields with a history of the disease.**

### **TYLCV**

**Growers around Manatee County continue to report mostly low levels of tomato yellow leaf curl virus on tomato with a few hotspots with rather high percentage of infection from 20 to 35% of tomatoes either at harvest or close to harvest.**

**Around Southwest Florida TYLCV incidence remains mostly low, with most fields exhibiting much less than a 1% infection rate.** In many places you would have to walk many acres to find a single infected plant.

**On the East Coast, tomato yellow leaf curl virus is becoming common in some older plantings and incidence continues to increase.**

### **Gray Mold**

**Respondents around south Florida report an increase in botrytis over the past few weeks kicking off pepper and tomato blooms.** Gray mold is a fairly common problem in tomato and can also attack beans, eggplants, pepper, and potato as well as many ornamentals.

**The gray mold fungus, *Botrytis cinerea*, derives its name from the Greek word botrys, meaning a bunch of grapes, which describes the characteristic arrangement of spores.**

***Botrytis* can cause a variety of problems including damping-off and blights of flowers, fruits, stems, and foliage.** Entry often occurs through damaged tissue. Stems can become infected through leaf scars, dead

leaves, or other form of stem damage. Stem lesions appear as large elliptical, water-soaked lesions. These may partially girdle the stem, but sometimes the entire stem is affected and the plant is killed.

**Leaf lesions often start on senescent tissue or areas of physical or chemical damage and develop into wedge-shaped grayish-brown lesions.** Senescent flower parts that have fallen onto leaves are a common starting point for leaflet colonization. During cool moist weather, a gray fungal growth may be evident on infected tissue.

**Fruit are often infected at the stem end or shoulder where they contact other infected plant parts.** Young fruit can also become infected directly by airborne. Water-soaked spots appear with a light brown to tan central region. Decay progresses rapidly. A soft rot may develop with the fruit skin remaining intact, while the inner tissue becomes mushy and watery. Sclerotia may form in infected tissues.

**The fungus survives between crops as sclerotia or as mycelium in plant debris.** Other crops may also serve as sources of inoculum. Development is favored by cool, wet, humid weather. Airborne spores landing on tomato plants germinate and can produce an infection when free water from rain, dew, fog, or irrigation is present for prolonged periods.

**Some research indicates that disease development is favored by low calcium to phosphorus levels in the soil.** With the loss of Benlate, there is currently no fungicide specifically labeled for the control of gray mold although fungicides applied for the control of other disease may provide some protection.

### **Target Spot**

**Around Immokalee, target spot incidence has increased in a number of older tomatoes working on the lower inner foliage and up inside the canopy.**

**Scouts around Manatee County report some target spot has become a problem on tomatoes with some fruit issues being reported.**

**Target spot is frequently misdiagnosed as in its early stages as leaf lesions are difficult to recognize and may be mistaken for bacterial spot**

**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, the disease first appears as small necrotic lesions with light brown centers and dark margins.** Some varieties display a pronounced yellow halo around these leaf spots. Individual lesions often coalesce and cause a general blighting of leaves.

**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. Recommended fungicides include various chlorothalnil formulations (Bravo, Echo, Bravo Ultrex, Bravo Weather Stik and Ridomil Gold/Bravo).

### **Early Blight**

**A few reports of Alternaria on tomato are starting to come in from several locations around south Florida.**

## **Gummy Stem Blight**

**Respondents around Palm Beach report some problems with gummy stem on squash.**

## **Mosaic**

**Mosaic virus is increasing in squash around South Florida and is becoming more common in older planting.**

## **Gray Wall**

**A few problems with gray wall have been reported around South Florida.** Gray wall is common in Florida tomato growing areas during periods of low light and morning fog, and during the winter and spring tomato production windows.

**The exact cause of gray wall is elusive.** Also called blotchy ripening, gray wall symptoms usually appear on immature tomato fruit as blotchy gray or brownish-gray spots. As the tomato matures to red, the discolored areas remain gray or turn yellowish, resulting in fruits that do not ripen evenly. The dark brown tissue can also be seen in the walls of the tomatoes when they are cut open, making them less desirable to consumers.

**The fruit defect is associated with a wide variety of environmental conditions including, but not limited to, high nitrogen, low potassium and compacted soil conditions or growing medium.** TMV, certain bacteria and fungi are also thought to be contributing factors to the development of gray wall.

## **Management Tips for the Prevention of Gray Wall**

1. Use gray wall tolerant varieties
2. Watch the weather - an awareness of predicted cold fronts or rainy conditions may allow the grower to implement early preventative crop management steps that may help reduce gray wall. Such steps may include reducing nitrogen applications, increasing K fertilization levels, and reducing the frequency of irrigations.

## **News You Can Use**

### **Florida's Minimum Wage Increases Jan 1**

Florida's minimum wage will be \$7.21 per hour, effective January 1, 2009. This is up from the \$6.79 per hour minimum wage in 2008. On November 2, 2004, Florida voters approved a constitutional amendment which created Florida's minimum wage. The minimum wage applies to all employees in the state who are covered by the federal minimum wage. Florida law requires the Agency for Workforce Innovation to calculate a new minimum wage each year and publish the new minimum wage on January 1. The current minimum wage represents a 6.2 percent change in the federal Consumer Price Index for urban wage earners and clerical workers in the South Region for the 12-month period prior to September 1, 2008.

In deciding whether the federal or state minimum wage applies, federal law directs that businesses must pay the higher of the two. The Florida minimum wage will prevail over the federal rate until such time as the federal minimum wage becomes higher than the state rate. The federal minimum wage will increase to \$7.25 on July 24, 2009. On this date, Florida employers must increase the minimum wage from \$7.21 to \$7.25.

Employers must pay their employees the hourly state minimum wage for all hours worked in Florida. The definitions of "employer," "employee" and "wage" for state purposes are the same as those established under the federal Fair Labor Standards Act (FLSA).

Employees who are not paid the minimum wage may bring a civil action against the employer or any person violating Florida's minimum wage law.

Florida Statutes require employers who must pay their employees the Florida minimum wage to post a minimum wage notice in a conspicuous and accessible place in each establishment where these employees work. This poster requirement is in addition to the federal requirement to post a notice of the federal minimum wage. Florida's minimum wage poster is available for downloading in English and Spanish from the Agency for Workforce Innovation's website at: <http://www.floridajobs.org/workforce/posters.html>. The federal poster can be downloaded from the U.S. Department of Labor's website at: <http://www.dol.gov/esa/whd/regs/compliance/posters/flsa.htm>.

The Florida and federal minimum wage will increase as follows:

\$6.79 – January 1, 2008 Florida Current Minimum Wage  
\$7.21 – January 1, 2009 Florida New Minimum Wage  
\$7.25 – July 24, 2009 Federal and Florida New Minimum Wage  
FLORIDA'S MINIMUM WAGE RESOURCES: (Updated October 15, 2008)

2009 Notice to Employees Poster (English)  
[http://www.floridajobs.org/minimumwage/Poster-FL\\_MinWage2009.doc](http://www.floridajobs.org/minimumwage/Poster-FL_MinWage2009.doc)

2009 Notice to Employees Poster (Spanish)  
<http://www.floridajobs.org/minimumwage/Spanish%20Version%20Min%20Wage%20Poster.doc>

## Operation Cleansweep

The Florida Department of Agriculture and Consumer Services and the Florida Department of Environmental Protection are again joining forces to collect and safely dispose of cancelled, suspended or unusable commercial pesticides for the 9th annual Operation Cleansweep.

Operation Cleansweep is a convenient, cost-effective public-private partnership to dispose of unwanted or outdated pesticides, providing free collection and disposal for Florida's pesticide consumers.

To participate in Operation Cleansweep, commercial pesticide applicators can call FDACS at (877) 851-5285 or download the sign up form at [www.flaes.org/pdf/Flyer2006.pdf](http://www.flaes.org/pdf/Flyer2006.pdf). For more information, visit DEP's website at [www.dep.state.fl.us/waste/categories/cleansweep-pesticides](http://www.dep.state.fl.us/waste/categories/cleansweep-pesticides).

## 2009 Florida Certified Pile Burner Courses

The Florida Division of Forestry and University of Florida IFAS are cooperating to offer Certified Pile Burners Courses in 2009. This course will show you how to burn piles legally, safely and efficiently. Most importantly, it could save a life by decreasing risks associated with smoke on roadways. If you burn piles regularly, don't put off registering for this training. **When the weather is dry, certified pile burners will receive priority for authorization to burn.** Also, certified pile burners are allowed to burn up to two hours longer per day and get multiple day authorizations. Don't wait. The number of trainings offered and attendance at each training is LIMITED. The cost of the course is \$50 per person and includes all course materials, test and lunch.

February 24, 2009; Highlands County Extension Office in Sebring, FL

See [http://www.fl-dof.com/calendar/cal\\_pdf/pile\\_burner\\_sebring\\_Feb2009.pdf](http://www.fl-dof.com/calendar/cal_pdf/pile_burner_sebring_Feb2009.pdf) for details and registration form. Please share this information with your clients, constituents, neighbors or others that may be interested.

Florida's Certified Pile Burner Course is a service of:

Florida Division of Forestry

University of Florida - IFAS, School of Forest Resources and Conservation University of Florida - IFAS,  
Cooperative Extension Service

It may seem that this class is not for vegetable growers but in conversations that I have had with the Department of Forestry – this is why citrus growers can burn when vegetable growers are denied permits. Having this certification is no guarantee but will cause the Department to look more favorably on allowing you to burn especially in dry times. – GM

### **Farm Labor Contractor Registration**

Farm Labor Contractor registration continues to be an uphill battle... for both the federal and the state with less than pleasant results. The US DOL office in Atlanta has advised us they will no longer accept documents or requests by fax or e-mail. All items need to be mailed and any requests should be made by telephone. The state office in Tallahassee still remains understaffed at this time of year - so submitted documents are taking 30 or more days to get processed. After 12/31/2008, DBPR field personnel will no longer be helping FLC's complete applications and all testing will be done by computer at a testing center - 21 of which will be located across Florida. Not sure how this will affect us the process - other than to advise you to submit your documents completely together in one mailing and at least 30 days in advance.

### **Farm Labor Contractor Compliance**

US DOL Wage and Hour Officials are reportedly instituting compliance inspections targeting citrus and vegetable operations across South Florida. It would be well advised to review your level of preparedness in advance of a possible inspection.

### **FLORIDA'S MINIMUM WAGE INCREASES JAN 1**

Florida's minimum wage will be \$7.21 per hour, effective January 1, 2009. This is up from the \$6.79 per hour minimum wage in 2008. On November 2, 2004, Florida voters approved a constitutional amendment which created Florida's minimum wage. The minimum wage applies to all employees in the state who are covered by the federal minimum wage. Florida law requires the Agency for Workforce Innovation to calculate a new minimum wage each year and publish the new minimum wage on January 1. The current minimum wage represents a 6.2 percent change in the federal Consumer Price Index for urban wage earners and clerical workers in the South Region for the 12-month period prior to September 1, 2008.

In deciding whether the federal or state minimum wage applies, federal law directs that businesses must pay the higher of the two. The Florida minimum wage will prevail over the federal rate until such time as the federal minimum wage becomes higher than the state rate. The federal minimum wage will increase to \$7.25 on July 24, 2009. On this date, Florida employers must increase the minimum wage from \$7.21 to \$7.25.

Employers must pay their employees the hourly state minimum wage for all hours worked in Florida. The definitions of "employer," "employee" and "wage" for state purposes are the same as those established under the federal Fair Labor Standards Act (FLSA). Employers of "tipped employees" who meet eligibility requirements for the tip credit under the FLSA, may count tips actually received as wages under the FLSA. However, the employer must pay "tipped employees" a direct wage. The direct wage is calculated as equal to the minimum wage (\$7.21) minus the 2003 tip credit (\$3.02), or a direct hourly wage of \$4.19 as of January 1, 2009.

Employees who are not paid the minimum wage may bring a civil action against the employer or any person violating Florida's minimum wage law. The state attorney general may also bring an enforcement action to

enforce the minimum wage. FLSA information and compliance assistance can be found at:  
<http://www.dol.gov/dol/compliance/comp-flsa.htm>.

Florida Statutes require employers who must pay their employees the Florida minimum wage to post a minimum wage notice in a conspicuous and accessible place in each establishment where these employees work. This poster requirement is in addition to the federal requirement to post a notice of the federal minimum wage. Florida's minimum wage poster is available for downloading in English and Spanish from the Agency for Workforce Innovation's website at: <http://www.floridajobs.org/workforce/posters.html>. The federal poster can be downloaded from the U.S. Department of Labor's website at: <http://www.dol.gov/esa/whd/regs/compliance/posters/flsa.htm>.

The Florida and federal minimum wage will increase as follows:

\$6.79 – January 1, 2008 Florida Current Minimum Wage  
\$7.21 – January 1, 2009 Florida New Minimum Wage  
\$7.25 – July 24, 2009 Federal and Florida New Minimum Wage  
FLORIDA'S MINIMUM WAGE RESOURCES: (Updated October 15, 2008)

2009 Notice to Employees Poster (English)  
[http://www.floridajobs.org/minimumwage/Poster-FL\\_MinWage2009.doc](http://www.floridajobs.org/minimumwage/Poster-FL_MinWage2009.doc)

2009 Notice to Employees Poster (Spanish)  
<http://www.floridajobs.org/minimumwage/Spanish%20Version%20Min%20Wage%20Poster.doc>

## **USDA Opposes Fumigant Curbs**

The USDA believes new restrictions on common soil fumigants proposed by the Environmental Protection Agency are overly burdensome for farmers.

The EPA should change its proposed rules for metam sodium, methyl bromide, dazomet and chloropicrin, USDA Secretary Ed Shafer said in a letter to the agency.

Buffer zones for fumigant applications and other mitigation measures proposed in the EPA rule are flawed because they disregard on-the-ground circumstances, according to the letter, which was made public Dec. 22.

"They may or may not actually achieve the desirable level of performance; they may be redundant, overprotective or underprotective; and they provide no incentive for the regulated community to improve the technology so that it is more protective and cost-effective," Shafer wrote.

The EPA's buffer zone rules will particularly affect fruit and vegetable growers, taking land out of production in the U.S. and encouraging imports from overseas, he said.

In the Northwest, the restrictions would impair potato cyst nematode eradication, Shafer said.

The rules would also adversely affect reforestation efforts, since seedling producers heavily rely on fumigants, he said.

"Tree nurseries, typically small, would lose a disproportionate percentage of usable acreage to buffers, thereby causing the costs of purchasing vigorous tree seedlings to increase two-fold," he said.

The EPA is largely venturing into uncharted waters in terms of developing mitigation measures for fumigants, said Vince Piccirillo, a representative of metam sodium producer Taminco. The fumigant restrictions were

proposed in July.

For that reason, it's difficult to assess how the USDA's position will affect the agency's decision-making process, he said.

"You never can tell which way the wind will blow," Piccirillo said.

Given the diversity of fumigant types and application methods, designing a single set of regulations is very complicated for the EPA, said Jay Vroom, CEO of CropLife America, which represents the pesticide industry.

The rules under consideration could set a precedent for how similar pesticides are regulated, which is why EPA should seriously consider the changes suggested in Shafer's letter, he said.

"I think they should have an important impact," Vroom said.

Mateusz Perkowski  
Capital Press  
1/2/09

## **Wanted**

Avatar Trucking is seeking produce loads. Call 757-693-1129, ask for Aaron.

## **Farm Land for Lease**

Farm Land for lease in LaBelle area – contact Greg Jones at 863-675-0545

## **Up Coming Meetings**

### **February 7, 2008                      Hendry County City Farm Tour**

This is a great opportunity for city folks to spend a day on the farm and learn about agriculture in SW Florida, how it benefits the state and local economy and gain a better understanding of the issues affecting agriculture. Features visits to livestock, vegetable, sugar and citrus operations and a lip smacking steak lunch prepared by the Hendry County Cattlemen's Association. Cost is \$60. For more information or to reserve a place, call Debra at 863-674-4092.

## **Websites**

**Beneficial and Effective Micro-organisms** – Dr. Teruo Higa, Professor of Horticulture, University of the Ryukyus, Okinawa, Japan has conducted pioneering work in advancing the concept of "Effective Microorganisms" (EM). He has developed microbial inoculants that have been shown to improve soil quality, crop growth and yield and have gained attention worldwide and are now being used by some growers locally. For a good overview – check out <http://www.agriton.nl/higa.htm> |

**Multi Cultural Fresh Fruits and Vegetables** – this power point produced by the US Department of Defense may open you're your eyes to new crops and new opportunities in vegetable production – check it out at [http://www.dscp.dla.mil/subs/conf2007/briefs/breakout/prod\\_ethnic.ppt#258,3,The%20World%20is%20coming%20to%20us!](http://www.dscp.dla.mil/subs/conf2007/briefs/breakout/prod_ethnic.ppt#258,3,The%20World%20is%20coming%20to%20us!)

**Management of Whiteflies, Whitefly-Vectored Plant Virus, and Insecticide Resistance for Vegetable Production in Southern Florida** for current UF/IFAS Recommendations, go to <http://edis.ifas.ufl.edu/IN695> .

## Quotable Quotes

The shepherd drives the wolf from the sheep's throat, for which the sheep thanks the shepherd as his liberator, while the wolf denounces him for the same act, as the destroyer of liberty. Plainly the sheep and the wolf are not agreed upon a definition of the word liberty; and precisely the same difference prevails today among human creatures. - Abraham Lincoln

Not everything that counts can be counted, and not everything that can be counted counts. - Albert Einstein

When you look at yourself from a universal standpoint, something inside always reminds or informs you that there are bigger and better things to worry about. - Albert Einstein

At least once, every human being should have to run for his life, to teach him that milk does not come from the supermarket, that safety does not come from policemen, and that news is not something that happens to other people. - Robert Heinlein

## On the Lighter Side

### Trick Dog

A man walks into a bar with his dog. He sits down at the bar and orders a beer. The Bartender tells the man that it is a nice looking dog and asks if he knows any tricks.

The man says, "Yes" and tells the dog, "The Gators beat the Noles today." The dog stands up on its hind legs and starts swaying back and forth while barking "We are the boys from Old Florida."

The Bartender says, "Hey, that is pretty good. What happens if you tell him the Noles beat Florida???"

The man replies, "I don't know, he's only 5 years old."

### Drunken Observations

THINGS THAT ARE DIFFICULT TO SAY WHEN DRUNK:

1. Innovative
2. Preliminary
3. Proliferation
4. Cinnamon

THINGS THAT ARE VERY DIFFICULT TO SAY WHEN DRUNK:

1. Specificity
2. Anti-constitutionalistically
3. Passive-aggressive disorder
4. Transubstantiate

THINGS THAT ARE DOWNRIGHT IMPOSSIBLE TO SAY WHEN DRUNK:

1. No thanks, I'm married.
2. Nope, no more booze for me!
3. Sorry, but you're not really my type.
4. Taco Bell? No thanks, I'm not hungry.
5. Good evening, officer. Isn't it lovely out tonight?
6. Oh, I couldn't! No one wants to hear me sing karaoke.
7. I'm not interested in fighting you.
8. Thank you, but I won't make any attempt to dance, I have no coordination. I'd hate to look like a fool!

9. Where is the nearest bathroom? I refuse to pee in this parking lot or on the side of the road.
10. I must be going home now, as I have to work in the morning.

## **The F-16 vs C-130**

There is a moral here!

A C-130 was lumbering along when a cocky F- 16 flashed by. The jet jockey decided to show off.

The fighter jock told the C-130 pilot, 'watch this!' and promptly went into a barrel roll followed by a steep climb. He then finished with a sonic boom as he broke the sound barrier. The F-16 pilot asked the C-130 pilot what he thought of that?

The C-130 pilot said, 'That was impressive, but watch this!' The C-130 droned along for about 5 minutes and then the C-130 pilot came back on and said: 'What did you think of that?' Puzzled, the F-16 pilot asked, 'What the heck did you do?' The C-130 pilot chuckled. 'I stood up, stretched my legs, walked to the back, went to the bathroom, and then got a cup of coffee and a cinnamon bun.'

When you are young & foolish - speed & flash may seem a good thing!!!

When you get older & smarter - comfort & dull is not such a bad thing!!!

# Wishing you all the Best for a Prosperous and Happy New Year!

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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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