



UNIVERSITY OF  
FLORIDA

E X T E N S I O N

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# SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE

January 1, 2012

**A weak cold front moved across the area last week bringing cooler drier air and dropping nighttime lows into the low to mid 40's in the interior.** In general, December was unseasonably warm and mostly dry with temperatures averaging 2 -6 degrees above normal. Many mornings saw foggy conditions and heavy dews which have kept diseases active in many places. Growers report that there have been a number of mornings where plants remained wet until nearly mid-day.

**Temperatures for the past few weeks have been above average with nights dipping into the 50's and 60's and daytime highs reaching into the low to mid 80's.** Most areas received less than an inch of rain for the month except for a couple of East Coast locations. Higher than normal temperatures have accelerated the harvest period on many crops and hastened maturation of fruiting vegetables resulting in lower than normal yields in tomato due to higher than average color in the field.

## FAWN Weather Summary

Date	Air Temp °F		Rainfall (Inches)	Ave Relative Humidity (Percent)	ET (Inches/Day) (Average)
	Min	Max			
<b>Balm</b>					
12/5 – 12/31/11	35.42	83.71	0.3	82	0.06
<b>Belle Glade</b>					
12/5 – 12/31/11	42.99	84.9	1.7	86	0.06
<b>Clewiston</b>					
12/5 – 12/31/11	43.82	83.43	0.58	84	0.06
<b>Ft Lauderdale</b>					
12/5 – 12/31/11	52.02	52.02	1.88	78	0.07
<b>Fort Pierce</b>					
12/5 – 12/31/11	43.13	81.45	2.51	84	0.06
<b>Homestead</b>					
12/5 – 12/31/11	47.37	82.67	0.34	82	0.07
<b>Immokalee</b>					
12/5 – 12/31/11	38.66	86.49	0.63	83	0.06

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**Harvesting in central and southern production areas continued as producers attempted to meet the holiday demands for vegetables.** Cooler temperatures aided strawberry development around Plant City. Growers marketed of beans, cabbage, sweet corn, cucumbers, eggplant, endive, escarole, bell peppers, radishes, squash and strawberries, tomatoes and a variety of specialty crops. Tomato, pepper and melon harvest is nearing the end in many fields in the Manatee/Ruskin area.

**The National Weather Service forecast for the coming week calls for much colder temperatures in the mid 30's to arrive Tuesday morning.** On Tuesday morning, windy conditions will not allow for radiational cooling.

**However on Wednesday morning strong radiational cooling will allow for temperatures to drop possibly near or below freezing in the northern parts of Hendry, Glades as well as inland Collier and Palm Beach counties.** Radiational cooling will also keep the western metro areas on Wednesday morning cold with temperatures in the low 40s.

**Temperatures will begin to moderate on Thursday as this forecast calls for a quick shot of cold air without a second strong reinforcement of cold air.**

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

## **Insects**

### **Leafminers**

**Reports from the Manatee Ruskin area indicate that leafminer pressure remains high in tomatoes.**

**Around Immokalee, leafminer is the big problem in tomato.** Growers and scouts report that pressure in many places is higher than has been seen in several years. Leafminer adults are abundant and pressure is reported to be severe, with growers finding them on plants just 1-2 days in the ground. Some growers have switched over to Coragen in the transplant water on the last couple of plantings and report that it is working much better than through the drip at first tie.

**Respondents on the East Coast report that leafminer pressure is high in tomato and eggplant and note that threshold levels are present in some younger peppers as well.** Growers have also noted some problems in basil as well.

**Around Belle Glade, leafminers have been active in lettuce and leafy greens.**

**Around Homestead leafminers numbers are medium to high with problems reported in tomatoes and beans.**

**The two major species of leafminer that cause problems in vegetables in Florida are the vegetable leafminer (*Liriomyza sativae*) and the American serpentine leafminer (*L. trifolii*).**

**Leafminers are particularly damaging on celery, crucifers, cucurbits, okra, potato and tomato.** In south Florida, populations peak between October and March.

**The adults are small yellow and black flies about the size of a gnat.** The female punctures or "stipples" the leaves with her ovipositor to lay eggs in the leaf tissue or to feed on sap.

**Leafminer damage is easily recognized by the irregular serpentine mines in leaves.** The tunnel is clear with a trail of black fecal material left behind as the maggot feeds.

**Leafminers have a relatively short life cycle.** The time required for a complete life cycle in warm environments such as Florida is often 21 to 28 days, so numerous generations can occur annually in tropical climates.

**Females can produce 600 to 700 eggs over their life span, although studies suggest that 200 to 300 are more typical.** Females may deposit 30 to 40 eggs per day, but egg deposition decreases as flies grow older. Eggs are inserted into plant tissue just beneath the leaf surface and hatch in about three days.

**Flies feed on the plant secretions caused by oviposition, and also on natural exudates.** Females often make feeding punctures, particularly along the margins or tips of leaves, without depositing eggs.

**There are three larval stages.** The maggots feed approximately 7 days and then exit the leaf to pupate on the ground or mulch under infested plants. The maggots feed on tissue between upper and lower leaf surface leaving a winding trail or pattern through the leaf.

**The mature larva emerges from the mine, drops from the leaf, and burrows into the soil to pupate.**

**Both leafminers a wide host range including bean, beet, carrot, celery, cucumber, eggplant, lettuce, melon, onion, pea, pepper, potato, squash, and tomato.** There are many other hosts and numerous broad-leaved weed species can harbor leafminers in Florida.

**An integrated pest management program that stresses conservation of natural enemies is important for the successful control of leafminer.** Chemical control can be difficult due to the feeding habits inside the leaf of the host plant. Insecticides that specifically target the leafminer are recommended as use of broad-spectrum materials may decimate beneficial insects including those that attack leafminer. This often results in a larger leafminer problem if the pesticide reduces numbers of leafminer parasites.

**Several parasites for this insect have been recorded in Florida, but parasitic wasps are most common.** Up to 90% parasitism in non-sprayed tomatoes has been observed in Florida.

**To determine whether leafminer larvae are dead or alive, leaflets can be 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 are readily visible, although movement may cease when larvae are disturbed or molting. Dead larvae do not show movement and are usually discolored and removed from the ends of mines.

**Therefore, it is important that the scouting program include not only an assessment of the number of leafminers present but also the natural enemies.**

**Cyromazine (Trigard) alternated with abamectin (Agrimek) are effective against leafminer in tomato.** Both of these products have limited crop registrations and must not be used on unregistered crops. Dow products Spintor (Spinosad) and Reliant (Spintoram) have also given good results and are labeled on a wide range of crops. Some other materials that may be used to conserve beneficials include azadirachtin (Neemix) and insecticidal oils. Both products are approved for use by organic growers as is Conserve (spinosad).

**The newest addition to the grower's arsenal of control is Coragen (rynaxpyr) DuPont, which has given good results.**

**Field sanitation is another important control tactic.** Weeds and abandoned crops can serve as reservoirs for this pest. After harvest crops should be destroyed as soon as possible to avoid having them serve as reservoir for new infestations.

## **Aphids**

**Around SW Florida, scouts report a big upswing in aphid numbers.** Winged aphids are moving around and colonizing several crops including pepper, melons, squash, eggplant, potatoes in scattered locations across the area.

**Around Palm Beach County, aphid pressure is increasing with activity being noted in a variety of crops including oriental brassicas, as well as cucumbers, peppers and squash.**

**Respondents in Homestead report that green peach aphids remain mostly low.**

**In the Belle Glade area, aphids are present in cole crops and leafy greens.**

**Aphids have a simple life cycle with adult females giving birth to live offspring throughout the year.**

**Winged adults blow into fields moving on prevailing winds to initiate infestations.** Fields should be checked at least twice a week. Sample upwind field borders and edges first; as this is where aphids tend to appear initially. Take field samples in a zigzag pattern. Remember to check all quadrants of the field because aphid populations are often clumped.

**Aphid have short life cycle and can increase in number geometrically producing large numbers in a short period of time.**

**Cultural practices and biological control agents can reduce aphid infestations and delay or prevent the need for pesticide use.**

**Excessive and unnecessary use of insecticides should be avoided.** Early in the season, aphid infestations are often spotty, and if such plants or areas are treated in a timely manner, damage can be prevented later in the season. In some cases, use of insecticides for other, more damaging insects sometimes leads to outbreaks of green peach aphid. Inadvertent destruction of beneficial insects is purported to explain this phenomenon, but aphid resistance to some types of insecticide may also be involved.

**Softer pesticides including insecticidal soaps such as M-Pede), nicotinoids like Admire, Provado, Assail and others including Beleaf, Movento and Fulfill will provide good control help reduce impact on beneficials.**

## **Whiteflies**

**Growers and scouts in the Homestead area report that whiteflies pressure is increasing in a variety of crops and report that they have been a constant battle in tomatoes.**

**Whitefly numbers remain high in the Manatee Ruskin area.**

**Around SW Florida, reports indicate that silverleaf whitefly numbers are starting to build rapidly and have reached high populations in some places.** In some fields, scouts report finding very high numbers of whitefly adults on young tomato plants. (Up to 20/plant).

**Respondents on the East Coast, report that whitefly pressure is mostly low but note that numbers are beginning to increase in some places.**

### **Pepper Weevils**

**Growers and scouts in Palm Beach report that weevils can now be found in most mature pepper fields at some level.**

**Around Southwest Florida, pepper weevil numbers seem to be increasing rapidly and have become established in several fields around the area.**

### **Corn silk Fly**

**Respondents indicate silk fly pressure remains high in Homestead and the Glades.** Around Homestead, some scouts report finding 2-5 adults/plant and note that in places up to 80-90% ears had CSF larvae.

**The geographic range of the corn silk fly has spread up the Florida peninsula during the last decade from the Homestead region.** This fly is a year round pest of corn in southernmost Florida. Corn grown just south of Lake Okeechobee is attacked primarily in the late winter and spring.

**This pest damages ears in several ways.** By damaging silks, the larvae disrupt pollination and reduce kernel density. Larval feeding at ear tips can force growers to have tips cut off at harvest. However, near-mature larvae are just as likely to damage individual kernels distributed throughout ears rendering them completely unmarketable. In south Florida, and other areas with appropriate local food reservoirs, these flies are quick to reenter treated fields. Therefore, damage along field margins and across fields with large field edge to acreage ratios can be substantial.

**Corn silk flies are a complex of several species of picture winged flies. Adult flies have a dark green body with normal length legs, and red to brown eyes.** Their wings are patterned with four dark horizontal bands. Adults are active runners on plants often performing elaborate interactions involving wing flapping and waving and running at and around other corn silk flies.

**This insect is saprophytic and feeds and reproduces on a wide variety of over-ripe and rotting fruits, vegetables and sugarcane.**

**Females will deposit eggs into sweet corn ears for up to 3 weeks after silk initiation, but prefer ears with fresh silk.** Thin, 1/16 in. long white eggs are deposited in silk channels, between ends of husks and around armyworm and earworm entrance and exit holes in husks. Larvae emerge in 2 to 4 days. The white to pale yellow, legless maggots are narrow, reaching 3/8 to 7/16 in. long, with black mouth hooks.

**Larvae start feeding on silks often just inside tips of husks.** They may continue to feed on silks advancing toward the tips of the ears, or they may feed extensively on kernels at the tips of the ear, or may disperse randomly throughout the ear to feed on kernels. Larvae complete development in 15 to 21 days. Exposed larvae quickly seek shelter by crawling or flicking themselves from the ears by grabbing and quickly releasing the end of their abdomen with their mouth hooks.

**Most silk flies pupate within the soil and are rarely found within the ear.** Maggots do not molt out of their last cuticle, but complete metamorphosis within it. Adults emerge in 7 to 8 days.

**On corn, adults are usually found on the tassels and upper leaves early in the morning and late in the afternoon.** This is the best time to scout them and to control them with chemicals. They move down the plants

or at least into shaded parts of the plants during the day. Ovipositing females are most often observed on ears below the overhanging silks.

**Sampling and management tactics are poorly developed.** Sampling should commence before tasselling is initiated. Adults can be detected in the late afternoon and early evening when they rest on the plants and mate on the tassel. During silking, silks should be checked for the presence of eggs.

**In south Florida, and other areas with appropriate local food reservoirs, these flies are quick to reenter treated fields.** Therefore, damage along field margins and across fields with large field edge to acreage ratios can be substantial.

**Alternatives to insecticides are few.** Growers in affected areas rely on frequent insecticide applications to maintain a toxic residue on the rapidly developing corn silk. Consult UF/IFAS recommendations for formulations, rates, and pre-harvest intervals of currently labeled insecticides for corn silk fly control in Florida.

### **Broad mites**

**Growers and scouts in Palm Beach report that broad mites are widely present a variety of crops including pepper and eggplant as well as some herbs.**

**Around Immokalee, broad mites continue to be problematic in peppers, squash and eggplant.**

**Reports from Homestead indicate that broad mite numbers remain high in some beans and cucurbits.**

**Broad mite feeding distorts plant tissue, causing leaves to become hardened, thickened and narrow, giving them a “strappy” appearance.** The blooms abort and plant growth is stunted when heavy pressure is present.

**Mites are usually seen on the newest leaves and small fruit.** Leaves turn downward and turn coppery or purplish. Internodes shorten and the lateral buds break more than normal.

**Malformed terminal buds and stunted growth is often a telltale sign that broad mites are present.** Broad mites are extremely tiny and are difficult to see without a 10X or stronger hand lens. The mites may crowd into crevices and buds. Mites prefer the shaded side of fruit and the underside of leaves, which usually faces the plant, so scouts must be diligent and carefully inspect affected plants to detect these tiny creatures.

### **Worms**

**Around Homestead, a variety of worm pests including fall armyworm, beet armyworm and diamondback moth are active.** Growers and scouts report that fall armyworms pressure remains high in sweet corn and melonworm and pickleworm are declining in cucurbits.

**Grower and scouts in SW Florida report that worm pressure remains steady with some decline in numbers being noted as temperatures declined this past week.** Pepper growers continue to report issues with mostly beet and southern armyworms. Respondents report that melonworms are still going strong in some cucurbits. Reports indicate that fall armyworms have been “bad” in sweet corn with growers spraying daily to maintain control.

**Respondents in the Glades report that worm pressure has started to slow in both sweet corn and leafy greens.**

**In the Palmetto/Ruskin area, respondents note that worm counts have dropped off significantly in recent weeks.**

**Around Palm Beach County, reports indicate that worm pressure is mostly low but note that loopers remain common in tomato. Melonworm and pickleworm are still causing problems in squash in some areas.**

### **Spidermites**

**Respondents in the Plant City area note that many strawberry fields are displaying rapidly increasing mite pressure due to warm temps.**

**A few two-spotted mites are present in mostly low levels on tomatoes and eggplants around South Florida but some increases have been noted particularly in older tomatoes.**

### **Thrips**

**Thrips remain low in most areas.**

**Respondents in Homestead report some problems with melon thrips in cucumber and other cucurbits.**

**Reports from Palm Beach County indicate that thrips activity is increasing in pepper and eggplant and note that damage is typical of western flower thrips.**

**Around Plant City, respondents indicate that chili thrips pressure in strawberries has dropped off over the past few weeks.**

### **Diseases**

**Foggy weather and heavy dews have helped keep diseases active.**

### **Late Blight**

**Late blight has been detected in a single potato field in SW Florida and has spread in field since the initial detection two weeks ago.**

**Growers would be well advised to scout susceptible crops carefully as the weather of the past few days (foggy mornings with cool nights and warm days) have been conducive to disease development.**

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

**The disease thrives under cool 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 anywhere 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.

**Begin a spray program with fungicides if late blight is in your area or weather conditions are suitable for late blight development.** At 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 when conditions are conducive to disease development.

**Consult current UF/IFAS recommendations for labeled fungicides for the control of late blight.**

### **Bacterial Spot**

**Around Immokalee, bacterial spot remains active in older tomato and some pepper.** Some respondents are reporting a small jump in pressure and note finding some fresh lesions moving into the tops about a week or 10 days ago. Over all, while bacterial spot has been rampant fall tomatoes, most of the later plantings are clean with little pressure.

**Peppers have been either hit hard with bacterial spot or are really clean with not many fields in the middle.** Bacterial spot resistant varieties have worked well in many places but in some fields new infections in race 1-5 resistant varieties indicate that race 6 is present.

**Respondents in the Manatee Ruskin area report that bacterial spot is still active in remaining tomatoes.**

**In Homestead respondents indicate that bacterial leaf spot is widely present and has been a battle in tomatoes.**

**Around Palm Beach, bacterial spot is present in some pepper and tomato but scouts report that it has slowed down in most places and plants are growing out with the exception of a few hotspots.**

**Some scouts report that in some places where bacterial spot is active, infected leaves are dripping bacterial exudate on wet morning which can be easily seen on the plastic.** It seems that good soil moisture, turgid leaves and long wetting periods have probably all come together to allow the exudate to drip in greater quantity.

### **Target Spot**

**Respondents from the Manatee Ruskin area indicate that target spot is increasing in incidence and severity in most tomato fields with some fruit infections present in a couple of places.**

**Around Immokalee, reports indicate that target spot slowed down but fired up towards the end of December with increasing wetness and is active inside the bush on older tomatoes.** Growers have reported good results with Inspire Super and Scala.

**Reports from Palm Beach and Homestead indicate that target spot remains low in those areas.**

**Dr. Gary Vallad, Plant Pathologist at the UF/IFAS GCREC reminds growers and scouts need to be extra vigilant as target spot can progress rapidly on the inside of the canopy with little evidence of disease on the outer leaves, especially as the humidity starts creeping up again.**

**Dr. Gary Vallad, Plant Pathologist at GCREC writes foliar symptoms of target spot caused by *Corynespora cassiicola* consist of brown-black lesions with subtle concentric rings giving them a target-like appearance.** These can be confused with early blight. Fruit symptoms of target spot often consist of small sunken lesions, but can develop larger zonate lesions.

**Target spot has a broad host range and is favored by periods of high humidity and free moisture (rain or dew) and temperatures between 70 - 94 °F.**

**Management strategies for target spot require an integrated approach for best results.**

- Rotate tomato fields to avoid carryover on crop residue.
- Avoid rotations among solanaceous crops.
- Eliminate any volunteers and weed species (especially solanaceous weeds) that can act as a reservoir.
- Start with clean, healthy transplants preferably produced in facilities removed from tomato production.
- Maintain proper fertility, nitrogen deficiencies favor the development of early blight.
- Apply fungicides in a preventive manner when conditions favor disease development.

**Gary indicates that based on his spray trials, he would rate available products for efficacy against Target spot (and Early blight) as follows:**

- 1) Switch, Inspire Super
- 2) Revus Top, Scala
- 3) Tanos, Endura, Quadris (and other strobilurins), Reason
- 4) Bravo (chlorothalonil)
- 5) Mancozeb, Copper

**He advises target spot will often go unnoticed by growers and scouts; who will often misidentify it as bacterial spot.** He advises growers to hit target spot harder early on, as it is difficult to control once plants get to the 2nd-3rd tie as it is difficult to get good penetration with any contact fungicide into the interior of the plant.

**Both target spot and early blight will do very well in this weather, especially with the heavy dews we've been having.**

### **Early Blight**

**Growers and scout reports some increase in Alternaria around South Florida but incidence and occurrence remains low in most areas.**

### **Sclerotinia**

**Mostly low levels of Sclerotinia have been reported on tomato and pepper around South Florida .**

**The fungus, *Sclerotinia sclerotiorum*, is responsible for a number of vegetable diseases attacking a wide range of crops.** 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).

**A good indicator of Sclerotinia disease is the presence of small, black sclerotia (resting structures) of the fungus.** Sclerotia can form on the surface of plant parts as well as inside the stems of pepper and tomato. The sclerotia enable the fungus to survive from season to season and are the source of inoculum to infect crops.

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

**Symptoms vary between crops.** White mold in beans usually appears after flowering. The disease often appears in leaf axils and advances into the stem, producing water-soaked spots that increase in size, girdling the stem, and killing it above the point of infection. The disease can also enter the plant through leaves or pods that touch the soil where sclerotia or infected plant parts act as inoculum.

**In tomato, potato and pepper, infection typically starts at flowering.** Water-soaked spots are usually the first symptom, which is followed by invasion of the stem, girdling, and death of the upper part of the stem that turns a light gray. The disease can also begin where the plant contacts the soil or infected plant debris. Large portions of the field may become diseased, producing large, circular, areas of dead plants. The black sclerotia formed by the fungus are often found inside infected stems.

**Almost all Sclerotinia diseases are field diseases, but when they occur in post-harvest situations they can be very damaging.** In beans, the fungus may create a mass of diseased pods that is stuck together by fungal growth, resembling a nest (hence, the name "nesting").

**In beans, fungicides including Botran 75 W, Endura 70 WG, Iprodione 4 L Quadris F, Rovral 4 F and Switch applied at bloom stage have been effective in controlling white mold.** Iprodione and Rovral 4 F have been used with good results in lettuce. For potato, Iprodione 4 L, Rovral 4 F and Topsin M WSB and 4.5 L are recommended for Sclerotinia control while in tomato Amistar 80 DF has given good results. Biologicals like Contans WG, Serenade Max and Sonata have also provided various degrees of control alone and in combination with other fungicides.

**Consult UF/IFAS recommendations for currently labeled fungicides for sclerotinia control in Florida vegetables.**

### **Southern and northern corn leaf blight**

**Dr. Rick Raid, Plant Pathologist at UF/IFAS EREC reports that southern corn leaf blight and northern corn leaf spot remain active in sweet corn probably due unseasonably warm weather in December.**

Northern corn leaf (*Bipolaris carbonum* (formerly *Helminthosporium carbon*), a bigger and darker lesion than *maydis*, is increasing in lower foliage of mostly older plantings. It has been appearing in greater incidence over the past few years.

**Southern corn leaf blight (*Maydis bipolaris*) has been the most prevalent foliar disease fall-planted sweet corn, favored by the warm, moist conditions.**

**Strobilurin and triazole fungicides rotated with a good broad spectrum fungicide, such as mancozeb or chlorothalonil, are very effective in controlling both of these diseases.**

### **Southern Corn Rust**

**Dr. Raid reports that southern corn rust which is normally a spring disease in the Glades has made a rare appearance this year with some being found in December, again most likely due unseasonably warm weather in December.**

### **Powdery Mildew**

**Around southwest Florida, powdery mildew is widely present in squash with incidence and severity dependent on location and crop age.**

**Growers and scouts on the east Coast report finding some powdery mildew in pepper noting that it is unusually early.** Reports indicate that it is heaviest in mature Cubanelle peppers in Palm Beach with low levels present in bell pepper in St Lucie County.

### **Tomato Yellow Leaf Curl Virus**

**Growers in the Manatee Ruskin area continue to reporting mostly low levels of TYLCV infections but note that it is definitely increasing in older crops**

**Around Southwest Florida, TYLCV remains fairly low but some older fields are showing new symptoms in tops of plants which is a sign the inoculum is building around the area.** Most fields remain in the 1 - 2 % TYLCV infection rate but ranges up to up to 20% TYLCV in some fields.

**TYLCV incidence is on the increase in Homestead where an increasing number of infections are showing up in tomato.**

**In Palm Beach respondents indicate that TYLCV remains low with a few plants showing up here and there.**

### **Groundnut Ringspot Virus**

**A few GRSV infected tomato plants have been reported from fields around Homestead, Palm Beach and SW Florida.**

**Respondents in Palm Beach County report that GRSV incidence is running around 1 -2 % in some fields but one noted that they have rouged out 20 plants with GRSV for every 1 with TYLCV.**

**Groundnut Ringspot Virus in Florida was recently published and can be found on-line at <http://edis.ifas.ufl.edu/pp282>**

## **Fusarium Crown Rot**

**Growers and scouts around south Florida are beginning to report finding some fusarium crown rot dropping a few nearly mature tomato plants along with a few peppers in places.** Incidence is low and occurrence is patchy.

## **Downy Mildew**

**Around SW Florida respondents report that downy mildew incidence is moderate to high in some older cucumbers and squash.**

**Growers and scouts in Palm Beach County report downy mildew is present at mostly low levels in squash and cucumber.**

**Leaf symptoms can be used to diagnose downy mildew in the field in some cases.** On cucurbits other than watermelon, small yellowish spots occur on the upper leaf surface initially away from the leaf margin. Later, a more brilliant yellow coloration occurs with the internal part of the lesion turning brown. Lesions are usually angular as leaf veins restrict their expansion. When the leaves are moist, a downy grayish fungal growth may be seen on the underside of lesions.

**If cucurbits are planted close to established fields infected with downy mildew, a spray program should be initiated as soon as the first true leaves are present.**

**Spray programs for downy mildew are most effective when initiated prior to the first sign of disease since once a planting becomes infected; it becomes more and more difficult for fungicides to control downy mildew.**

**A range of fungicides is available for the control of downy mildew depending on the crop.** Use of Bravo should be avoided on watermelon after fruit set as it may increase the risk of sunburn. Consult UF/IFAS recommendations for currently labeled fungicides for downy mildew control in Florida.

**Around the Glades, downy mildew is causing some problems in mustard and other cole crops.**

**Dr. Rick Raid reports that growers are finding low levels of foliar down mildew on sweet corn around Belle Glade.** He notes that this is rare and unusual and again probably related to unseasonable warm conditions in December. Johnson grass is an alternate host and weedy fields can be more susceptible.

## **Basil Downy Mildew**

**Basil downy mildew has been very severe around South Florida given the warm, moist conditions of the last couple of weeks.** Dr. Richard Raid, Plant Pathologist at UF/IFAS EREC recommends a preventative program using a good phosphite fungicide, alternated or tank-mixed with azoxystrobin.

**Under favorable conditions for disease development, sprays must be at least weekly, perhaps even more frequently.** Since there is abundant inoculum all over south Florida, growers should not wait until the disease shows up. Dr. Raid writes that we are still working on gaining more registrations through IR-4.

## **Septoria Leaf Spot**

**Around the Glades, reports indicate that Septoria leaf spot is increasing on parsley.**

**Typical early symptoms on parsley and coriander are brown sunken leaf spots sometimes with yellow haloes on leaves and cotyledons.** As the leaf spots age, the centers turn tan or light grey and tiny black fungal pycnidia often are visible, which is a useful diagnostic feature for this disease and helps distinguish *Septoria* leaf spot from the leaf spot caused by *Alternaria radicina*. When infection is severe, leaves may die and drop off, and lesions may develop on petioles. Pycnidia are sometimes visible on the seed surface but infection may also be more deep-seated within seeds.

**Crops are most at risk after long periods of leaf wetness, particularly at warm temperatures and high relative humidity.** Disease development is highly dependent on the presence of water for the pycnidia to swell and release spores, for splash dispersal of spores between plants and for leaf infection to occur.

**Spores are readily spread by overhead irrigation and also by people and machinery.** If an outbreak has been detected, the movement of equipment or workers through the field while the canopy is wet should be minimized.

**The use of strobilurin fungicides like azoxystrobin (Amistar, Syngenta Crop Protection), (Headline, BASF) should assist in controlling this disease.** Organic growers can use products like potassium bicarbonate (Armcarb 100, Helena Chemical Co.), (Kaligreen, Arysta LifeScience) for control.

### Early Blight of Celery

**Respondents report finding low levels of early blight in celery around Belle Glade.**

**Early blight of celery is caused by the fungus, *Cercospora apii*.** It occurs both in the transplant bed and in the field. On leaf blades, it produces light brown spots that are somewhat circular or slightly angular and 1/4 to 3/4 inch across.

**Spots may be greasy in appearance with or without surrounding yellow halos.** On the petiole, elongated, brown to gray lesions are formed. Gray, fuzzy fungal growth may be observed in the centers of leaf and petiole lesions, but distinct structures (such as those found with celery late blight) are not formed by this pathogen. Even though the fungus growth pattern is similar, do not confuse this disease with the early blight disease that occurs on tomato and potato, which is caused by an *Alternaria* sp. that does not infect celery.

**Celery transplants in late summer to early fall or when favorable weather occurs (unseasonably warm December) may need sprays two to four times weekly in South Florida, as blight commonly during this time.** Recommended fungicides include as Tilt (Propiconazole), Flint (Trifloxystrobin), Quadris (Azoxystrobin), chlorothalini and copper. Cultural controls and some copper sprays are acceptable for use on organically grown produce. Consult UF/IFAS recommendations for currently labeled fungicides for early blight control on celery in Florida.

### Postharvest Decay

**Several growers have reported seeing an increased incidence of postharvest decay on peppers and tomatoes in recent week.** Wet plant canopies and cool temperatures produce conditions that are favorable for postharvest decays of tomatoes. Growers report that on some days over the past few weeks, plants have been wet until nearly noon before the dew has dried off. Target spot lesions or other injuries (cracking of pepper is more common on cool wet mornings) can also enhance the chances for bacterial soft rot (soft rot comes in as a secondary on lesions, particularly if free water is present).

**While cool or cold temperatures are known to slow the development of soft rot, temperatures in**

**a normal ripening room (around 68 F) enables rapid soft rot development.** Additionally, the wet plants and possible field chilling are favorable for the development of sour rot, particularly if the fruit are showing some roughness due to cold at the time of fruit set.

**Field chilling and the harvest of cool fruit may lead to another periodic decay problem that is observed sporadically, particularly among pink harvests. Here dark, often water-soaked areas develop internally.**

**When the fruit are cut open, pockets of black decay are observed and the decay appears to streak down toward the blossom scar or down the fruit stem scar.** The pathogen involved here is weakly pathogenic fungus called *Alternaria alternata*, which normally isn't observed unless fruit have been chilled, have surface cracks or blossom end rot. The growth of the fungus down the stylar pore or down vascular tissue from the stem scar suggest some sort of injury, either an impact bruise or compression injury where fluid from damaged cells is forced out of the fruit and provides a convenient growth channel.

**This type of decay cannot be controlled by dump tank/flume sanitation.** Fields should be allowed to dry before harvest as possible. During periods of cool moist weather fruit should be harvested and handled carefully. This includes the trip from the field to the packinghouse where rough roads and excessive vehicle speeds can enhance vibration and compression injury.

## News You Can Use

### Minimum Wage Increases on January 1<sup>st</sup>.

The minimum wage will change again for the State of Florida this coming January 1st! Florida's minimum wage went to \$7.31 an hour on June 1, 2011 due to a law suit brought by several labor organizations. The initiative passed by the legislature requires that each September the state re-calculate the Florida minimum wage for the following year. This year they have decided to increase the current of \$7.31 per hour to \$7.67 per hour effective January 1, 2012.

This means that you will have to update your Worker Information - Terms and Conditions of Employment forms (WH-516) and change to the new minimum wage poster effective January 1, 2012. Please remember to update all your postings. This is a good time to review your "broken-arm" posters to make sure your dates of coverage on the labels are still valid.

### Workman's Comp up on Citrus and Vegetable Harvesters

The Florida Insurance Commissioner approved a workers' compensation rate increase for January 1st! Citing increases in medical and pharmaceutical costs, the insurance commissioner granted an overall 8.9% rate increase effective on all policies on and after January 1, 2012. As usual, this is not an across the board increase; some rates actually went down a small amount while others went up higher than the average (citrus and vegetable harvesting will see about a 16% increase).

### U.S. fresh vegetable acreage increases for fall 2011

Although grower prices going into the fall were generally low-to-average at best this year, most planting decisions were made months in advance, with current market conditions holding limited sway over area for the coming season.

Compared with a year earlier, fall season area for harvest of 11 selected fresh-market vegetables in the U.S. is expected to rise by 5 percent this year, to 153,450 acres, according to the latest USDA Vegetable and Melons Outlook.

Regional shipments from late summer/early fall crops began to wind down in mid-October, with ample volume keeping downward pressure on grower prices for most fresh-market vegetables.

As shipping seasons came to a close in states such as Michigan, New York, Ohio and Pennsylvania, the supply focus shifted to states such as California, Florida, Georgia, Texas and New Jersey.

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The size of the increase in fall acreage (primarily October-December) may be a bit misleading as the majority of the gain in area this fall was concentrated in a projected 30 percent surge in carrot acreage. Without the expected 5,000-acre gain in California carrots, the rise in fall fresh vegetable area would have been a more modest 2 percent.

Fall fresh-market vegetable acreage in California (up 6 percent), Florida (up 2 percent), and Georgia (up 3 percent) increased from a year earlier. Most of the gain in Florida was concentrated in cabbage and sweet corn, which both experienced above average prices this past summer.

Area in California, which accounts for about two-thirds of fall vegetable acreage, is expected to rise 6 percent from a year earlier. Lower area is expected for tomatoes and head lettuce but this will be more than offset by stronger area for most other vegetables including carrots, broccoli, sweet corn, celery and cauliflower.

#### Top five vegetables

This fall, the top five fresh vegetables in terms of market volume (excluding potatoes and onions) are expected to be head lettuce, carrots, celery, tomatoes and broccoli. Head lettuce area is down 4 percent with average yields expected this fall.

After a difficult winter featuring weather-driven high prices, June-October grower prices for head lettuce averaged below a year earlier and the average of the three previous years. A consistently cool California summer favoring good yields, competition from locally grown greens, and sluggish consumer demand kept downward price pressure on the California head lettuce market all summer.

With regional suppliers finished for the year, smaller fall area in prospect, transitions from coastal to inland growing areas, and the ever-present threat of unsettled fall weather, grower prices for head lettuce may turn higher from their summer seasonal lows.

However, given average yields and continued tepid consumer demand, fall head lettuce prices are expected to remain below those of a year earlier.

Spurred in part by lower prices last fall, fall tomato area is expected to drop 2 percent to 18,000 acres.

Preliminary data indicate that harvested area in Florida is expected to remain steady, while acreage in California is expected to account for the entire 300-acre reduction.

Part of the drop in U.S tomato area likely will be offset by improved yields since there have been few weather extremes (cooler in California and minimal tropical storm activity in western Florida) during the fall growing period.

Florida's fall tomato area continues to be eroded by lower-cost supplies from California and Mexico and strong retail competition with hothouse tomatoes.

Florida expects to harvest just 6,000 acres of fall tomatoes compared with a recent peak of 17,100 acres in 1999. Fresh-tomato movement increased this past summer largely on the strength of rising volume from greenhouse-grown products such as imported Roma tomatoes from Mexico.

The winter outlook is largely dependent on whether freezing temperatures are felt in production areas for a third consecutive winter.

Assuming no extended periods of below-freezing temperatures reach Florida, the desert southwest, or western Mexico, greatly improved supplies will bring a substantial reduction (25 percent or more) in fresh-vegetable prices this winter.

Paul Hollis  
Southeast Farm Press  
Mon, 2011-12-26 14:18

### **TPR SECURES SPECIAL LOCAL NEED DUAL MAGNUM® HERBICIDE LABEL**

Third Party Registrations Inc. recently obtained a Special Local Need 24(c) registration for the use of Dual Magnum® Herbicide for pre-emergence weed control in the Root Vegetables Crop Group 1-B and the Tuberous and Corm Vegetables Crop Group 1-C. A notice and sample label has been mailed to FFVA members who may be interested to allow review before usage.

TPR's service for securing labels is available only to FFVA members in good standing. These labels are obtained via the third party process primarily because of liability concerns of the primary registrant that would otherwise completely preclude registration of a particular use.

Approved crops for this new Dual Magnum Herbicide SLN label include:

- Root Vegetables Subgroup (1-B) Crops (except sugar beet and horseradish): garden beet, edible burdock, carrot, celeriac, turnip-rooted chervil, chicory, ginseng, turnip-rooted parsley, parsnip, radish and oriental radish, rutabaga, salsify, black salsify, Spanish salsify, skirret, and turnip.
- Tuberous and Corm Vegetables Subgroup (1-C) Crops (except potato and chufa): arrachacha, arrowroot, Chinese artichoke, Jerusalem artichoke, edible canna, bitter and sweet cassava, root chayote, dasheen, ginger, leren, sweet potato, tanager, turmeric, bean yam and true yam.

To obtain access to this TPR 24(c) Supplemental Label, you must be an active producer member of FFVA. You also must sign a Registration Agreement and a Waiver and Limitations of Warranty and Liability Agreement, which provide protection to the chemical manufacturer and distributor for crop damage and nonperformance liability in return for the right to have access to this product for your particular need. You also must agree to pay an annual administrative fee of \$2 per acre (or a minimum charge of \$250 will apply if less than 125 acres).

If you wish to acquire this Dual Magnum Label, please contact either Mike Aerts or Dan Botts at (321) 214-5200.

### **Up Coming Meetings**

**January 6, 2011**

**Bacterial Spot Resistant Pepper Variety  
Field Day**

**9 AM – 11AM**

Bedner Farms  
Corner of W Atlantic Ave and Half Mile Road  
Delray Beach, Florida

**February 1, 2011**

**Vegetable Growers Meeting**

**6 PM – 8 PM**

UF/IFAS SWFREC  
SR 27 N  
Immokalee, Florida

**This meeting will feature presentations by Dr. Scott Adkins, USDA/ARS on new cucurbit viruses and well as groundnut ringspot virus and Dr. Phil Stansly on whitefly and thrips control strategies. Sponsored by Fred Heald, The Andersons.**

**RSVP to Debra at 863-674-4092.**

**February 4, 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.

**February 26 -27, 2012**

**Florida Weed Science Society Annual Meeting**

Florida FFA Leadership Training Center  
5000 Firetower Road  
Haines City, FL 33844

Online registration for the meeting will be at [www.floridaweedsciencesociety.com](http://www.floridaweedsciencesociety.com) Check this website often for updates!

**Opportunities**

**Farm Land for Lease**

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

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

**Websites**

**Florida Grower Magazine on-line – need CEUs?** A number of correspondence credits are available at <http://www.growingproduce.com/floridagrower/> Click on CEU Series for the latest article.

**South Florida Vegetable Pest and Disease Hotline** – past issues can be found at [http://hendry.ifas.ufl.edu/agriculture/sw\\_fl\\_pest\\_hotline/index.shtm](http://hendry.ifas.ufl.edu/agriculture/sw_fl_pest_hotline/index.shtm) l

**Florida's Lost Tourist Attractions** - Once upon a time, before the giant mouse ate Orlando and Interstate Highways were built to cattle chute the tourists directly into International Drive, there was another Florida. It was somewhere between Henry Ford's mass production of the Model-T, which made automobile touring a commonplace, and Walt Disney's mass production of the tourist experience, which made the road trip a mere way to get there, instead of the there itself. It was the age of the roadside attraction. Check it out at <http://lostparks.com/>

## **Quotable Quotes**

Water: fluid, soft and yielding; but will wear away rock, which is rigid and cannot yield. As a rule: whatever is fluid, soft and yielding will overcome whatever is rigid and hard. - Lao Tzu

Do the difficult things while they are easy and do the great things while they are small. A journey of a thousand miles must begin with a single step. - Lao Tzu

Don't go around saying the world owes you a living. The world owes you nothing. It was here first. - Mark Twain

Be gentle to all and stern with yourself. - Saint Teresa of Avila

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

## **On the Lighter Side**

### **The Three Wise Men**

In a small Southern town there was a "Nativity Scene" that showed great skill and talent had gone into creating it. One small feature bothered a northern visitor. The three wise men were wearing firemen's helmets. Totally unable to come up with a reason or explanation, he left perplexed.

At a "Quick Stop" on the edge of town, he asked the lady behind the counter about the helmets. She exploded into a rage, yelling at him, "You Yankees never do read the Bible!" He assured her that he did, but simply couldn't recall anything about firemen in the Bible.

She jerked her Bible from behind the counter and ruffled through some pages, and finally jabbed her finger at a passage. Sticking it in his face she said, "See, it says right here, 'The three wise man came from afar.'"

## **CATHOLIC HORSES**

One day while he was at the track playing the ponies and all but losing his shirt, Mitch noticed a priest who stepped out onto the track and blessed the forehead of one of the horses lining up for the 4th race. Lo and behold, that horse - a very long shot - won the race.

Before the next race, as the horses began lining up, Mitch watched with interest the old priest step onto the track. Sure enough, as the 5<sup>th</sup> race horses came to the starting gate the priest made a blessing on the forehead of one of the horses.

Mitch made a beeline for a betting window and placed a small bet on the horse. Again, even though it was another long shot, the horse the priest had blessed won the race.

Mitch collected his winnings, and anxiously waited to see which horse the priest would bless for the 6th race. The priest again blessed a horse. Mitch bet big on it, and it won. Mitch was elated. As the races continued the priest kept blessing long shot horses, and each one ended up coming in first.

By and by, Mitch was pulling in some serious money. By the last race, he knew his wildest dreams were going to come true. He made a quick dash to the ATM, withdrew all his savings, and awaited the priest's blessing that would tell him which horse to bet on.

True to his pattern, the priest stepped onto the track for the last race and blessed the forehead of an old nag that was the longest shot of the day. Mitch also observed the priest blessing the eyes, ears, and hooves of the old nag.

Mitch knew he had a winner and bet every cent he owned on the old nag. He then watched dumbfounded as the old nag come in dead last. Mitch, in a state of shock, made his way down to the track area where the priest was.

Confronting the old priest he demanded, 'Father! What happened? All day long you blessed horses and they all won. Then in the last race, the horse you blessed lost by a Kentucky mile. Now, thanks to you I've lost every cent of my savings - all of it!'

The priest nodded wisely and with sympathy. 'Son,' he said, 'that's the problem with you Protestants; you can't tell the difference between a simple blessing and last rites.'

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

## **Wishing you all the Best for a Healthy, Happy and Prosperous 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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