



UNIVERSITY OF  
FLORIDA

E X T E N S I O N

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# SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE

January 30, 2012

**A Siberian air mass slammed into Florida on January 3<sup>rd</sup> bring freezing temperatures to much of south Florida** In many of the normally cooler areas, temperatures were below freezing for 6 – 9 hours or more and widespread crop damage was reported. A second cold front on January 15 brought freezing temps to some of the normally colder locations north and west of Lake Okeechobee. Otherwise, January was mostly warm and dry with temperatures averaging few degrees above normal. Many mornings saw foggy conditions and heavy dews which have kept diseases active in many places.

**Temperatures for the past few weeks have been above average with nights dipping into the 40's and 50'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 which saw shower activity this past week. Ground water levels are dropping in most areas.

### FAWN Weather Summary

Date	Air Temp °F		Rainfall (Inches)	Ave Relative Humidity (Percent)	ET (Inches/Day) (Average)
	Min	Max			
<b>Balm</b>					
1/1 – 1/29/12	26.7	83.62	0.9	75	0.06
<b>Belle Glade</b>					
1/1 – 1/29/12	29.6	84.33	0.7	77	0.06
<b>Clewiston</b>					
1/1 – 1/29/12	29.79	84.47	0.3	73	0.06
<b>Ft Lauderdale</b>					
1/1 – 1/29/12	41.88	87.39	0.5	73	0.06
<b>Fort Pierce</b>					
1/1 – 1/29/12	29.42	82.36	0.2	78	0.06
<b>Homestead</b>					
1/1 – 1/29/12	33.22	84.63	0.5	77	0.06
<b>Immokalee</b>					
1/1 – 1/29/12	23.88	87.08	0.3	75	0.06

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**Harvesting in southern production areas continued as growers ramped up spring plantings of a variety of items in South and Central Florida.** Producers marketed bell peppers, cabbage, celery, eggplant, endive, escarole, lettuce, radishes, snap beans, squash, sweet corn, tomatoes and a variety of specialty items. Tomato prices have been dismal due to an oversupply from Mexico which reported has nearly doubled imports into the country over last year.

**The National Weather Service forecast calls for high pressure to continue building into the southeast and northern Florida Sunday night into Monday with increasing northerly flow which will hopefully push the lingering frontal boundary and associated moisture into the Florida straits with no rain chances indicated in the forecast for Monday and Tuesday.** The guidance does however, indicate that the boundary moisture could be pushed northward into the region again by mid- week with a few showers possible towards the weekend. Temperatures will be in the 80's in the day and 50's at night.

**Temperature impacts associated with the frontal boundary will be slight through the remainder of the weekend and into early next week as the cold air advection will be weak.**

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

## **Insects**

### **Whiteflies**

**Around SW Florida, reports indicate that whiteflies have rebounded from the cold in tomatoes and are moving around with some high numbers of adults and nymphs in some older fields.** Respondents also note that are moving into younger crops. Scouts are reporting a fairly high level of TYLCV in winter plantings in some places around Immokalee in plants less than 2nd tie which indicates that a lot of the whiteflies flies in Immokalee are viruliferous at this time. Growers and scouts are also finding adult whiteflies in most other crops including significant numbers in young watermelons.

**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.**

**Respondents on the East Coast, report that whitefly pressure building in a number of areas.**

**Reports indicate that white fly numbers are high in Manatee County.** Tomatoes are just going into the ground in the Manatee Ruskin area but reports indicate there is a significant amount of fall tomato which has not been cleaned up which could cause problems as the season progresses. Scouts report finding whitefly adults on plants soon after planting. These abandoned crops have the potential to act as a significant source of whiteflies, leafminers and a variety of diseases including late blight and TYLCV.

**Under Florida law, abandoned tomato fields that have not been destroyed within five days after final harvest are subject to an immediate final order (IFO) per rule in FS Chapter 5B-59.003, Tomato Plant Destruction.**

**You can report abandoned tomato fields by sending an email to the Division of Plant Industry describing the physical location of the property.** Their first route of destruction would be to make contact with the growers and request compliance, if this does not occur an IFO is issued in which the grower has 10 days to correct the problem. If the commercial tomato producer refuses or neglects to comply with the terms of the notice within 10 days after receiving it, the director or her or his authorized representative may, under authority of the department, proceed to destroy the tomato plants. The expense of the destruction shall be assessed, collected, and enforced against the commercial tomato producer by the department.

See the rule here <https://www.flrules.org/gateway/RuleNo.asp?ID=5B-59.003>

Please contact Tyson Emery if you have any further questions or to report abandoned fields.

Tyson Emery  
Chief- Bureau of Plant and Apiary Inspection  
Division of Plant Industry  
Florida Department of Agriculture and Consumer Services  
Email: tyson.emery@freshfromflorida.com  
Phone: 352.372.3505 ext. 154

### **Leafminers**

**Around Immokalee, leafminers remains active on tomatoes and in other crops.** Growers and scouts report that they are moving from older plantings into the younger plantings.

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

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

**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.

**Leafminers have 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.

## **Worms**

**Grower and scouts in Homestead report that 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 increasing in cucurbits. Diamondback moth populations are medium to high in cabbage. Worm (fall and beet armyworm) pressure is relatively low in pepper and tomato.

**Around SW Florida growers are finding pickle and melon worms in squash and other cucurbits.** Reports indicate that fall armyworm numbers are increasing in corn. In other crops worms are around but pressure has been low to moderate.

**The worm pressure in the Glades as started to pick up on sweet corn following freeze damage earlier in the month.** The relatively hot dry and weather has favored population build up and respondents report finding fall armyworm with quite a few beet armyworms mixed in.

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

## **Pepper Weevils**

**Around Southwest Florida, respondents indicate that pepper weevils are really building now and actively moving around.** In past week or so, scouts report seeing a significant increase in adult weevil numbers on flower buds and small fruit.

**Reports from Homestead note that weevils are widespread and population numbers are high in many fields with 60-75% fruits were infested with pepper weevils in some fields.**

**Growers and scouts in Palm Beach report that weevils can now be found in varying numbers in most mature pepper fields at this time.**

## **Aphids**

**In the Belle Glade area, aphids remain a constant battle in lettuce and leafy greens.**

**Growers and scouts in SW Florida report that aphids seem to be around in about every crop at low levels but some fields have need treatment.** Both potato and green peach aphids with a smattering of melon aphid can be found in and around Hendry and Collier counties.

**Around Palm Beach County, aphids are active 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 but note that potato aphids started are increasing in numbers on potatoes.**

### **Corn silk Fly**

**Respondents indicate silk fly pressure remains high in Homestead and the Glades in areas close to the Lake.** 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.

### **Spidermites**

**Respondents around SW Florida note that spidermite pressure is increasing.** Scouts report finding spidermites on newly set watermelons which are becoming colonized within a few days of transplanting. In some cases mites appear to be coming from weeds that got burned back by the cold.

**Growers and scouts are also finding spidermites in tomatoes and eggplants around South 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 are low but still present in peppers, squash and eggplant.**

**Reports from Homestead indicate that broad mite numbers have been mostly low in recent weeks.**

### **Thrips**

**Thrips remain low in most areas.**

**Respondents in Homestead report some problems with melon thrips with high population numbers in bean, eggplants, cucumber and other cucurbits.**

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

### **Stinkbugs**

**Scattered problems with stinkbugs and leaf-footed bugs have been reported on a number of crops and locations across South Florida.**

### **Diseases**

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

### **Late Blight**

**Late blight is now widely present in a number of potato and tomato fields in both Southwest Florida and in the Manatee Ruskin area.** Incidence and severity remains low in most places.

**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.**

### **Lettuce Downy Mildew**

**Dr. Rick Raid, Pathologist at UF/IFAS EREC advises that he has observed the first lettuce downy mildew of the season yesterday in lettuce OUTSIDE of the EAA.**

**He notes that this confirms that weather conditions (cool with long dew periods) have been favorable for disease development.**

**He advises everyone growing lettuce to be on a PREVENTATIVE program.** The phosphites are good tools but should be used in a program with maneb and other compounds that are more efficacious against downy mildew.

**The list of fungicides currently labeled for lettuce downy mildew control includes maneb, fosetyl-Al, metalaxyl, and several copper compounds along with several newer compounds such as Presidio, Previcur Flex, Forum, Curzate, Reason, Revus, and Tanos, that have been added to growers control options.** Consult current UF/IFAS recommendations for labeled fungicides for the control of lettuce downy mildew.

**Resistance in *B. lactucae* to the fungicide metalaxyl was reported in Florida during 1989, and therefore its efficacy may be somewhat reduced.** Due to downy mildew demonstrated ability to develop resistance, growers are advised to rotate chemistries to avoid problems - FRAC numbers on labels will help avoid using similar active ingredients repeatedly.

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

**Around Southwest Florida, TYLCV is now present in most tomato fields.** In most places incidence remains fairly low but some hotspots have been reported with incidence at 10 -20% in some fields and increasing and few blocks have been reported where there is 100% infection in plants 6 weeks in the ground!

**Scouts report that new infections in the many of the older fields have been difficult to detect because of limited new growth following the cold damage to the upper canopy.**

**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 mostly low with a few plants showing up here and there.**

### **Groundnut Ringspot Virus**

**A few GRSV infected tomato plants continue to be reported from fields around Homestead, Palm Beach and SW Florida.**

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

### **Target Spot**

**Around Immokalee, reports indicate that target spot has slowed in some areas but is still active inside the bush on older tomatoes in many places.**

**Reports from Palm Beach and Homestead indicate that target spot is present in both areas. Incidence and severity is low to moderate.**

**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.

**In spray trials conducted by Dr Gary Vallad at the UF/IFAS GCREC, he has rated 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 scouts in Immokalee report finding early blight on tomato coming in behind cold damage in many cases.** Products listed above for target spot should provide good control.

### **Bacterial Spot**

**Around Immokalee, bacterial spot remains active at mostly low levels in tomato and pepper.**

**In Homestead respondents indicate that bacterial leaf spot is widely present in tomato and growers are working to manage it.**

**Around Palm Beach, bacterial spot is present in some pepper and tomato at mostly low levels. Some increase in pressure has been noted in recent days.**

### **Northern corn leaf blight**

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

**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 is present at low levels in corn, again most likely due to unseasonably warm winter weather.**

**Scouts have also reported the occurrence of rust on corn in Homestead.**

### **Powdery Mildew**

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

**In Palm Beach County, powdery mildew is causing problems in cucumbers and squash in several locations.** Growers and scouts also report finding some powdery mildew in pepper. Reports indicate that it is heaviest in mature Cubanelle peppers in Palm Beach with low levels present in bell pepper in St Lucie County.

**In the Glades, conditions are right for powdery mildew on radicchio.**

**Powdery mildew is also causing problems on strawberry in Hillsborough County.**

### **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.

### **Phytophthora**

**Respondents in Palm Beach County report severe losses from *Phytophthora capsici* on mature pepper plants in areas where the disease is traditionally present.** Incidence and severity is severe in many fields where it took off after growers raised levels for cold protection in early January.

### **Botrytis**

**Growers and scouts are reporting some problems with botrytis on tomatoes around Immokalee.**

**Gray mold is a fairly common problem in tomato and can be a major cause of post-harvest rot at harvest and in storage.**

**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 develop into wedge-shaped grayish-brown lesions.** 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.

**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.

**Senescent flower parts that have fallen onto leaves are a common starting point for leaflet colonization.** Leaf lesions often start on senescent tissue or areas of physical or chemical damage.

**Some research indicates that disease development is favored by low calcium to phosphorus levels in the soil.** There is no known resistance to *B. cinerea* in tomato cultivars

**Scala SC (pyrimethanil) and Switch 62.5 WG (cyprodinil and fludioxinil) are labeled for control of this disease.** Other fungicides including chlorothalnil, applied for the control of other diseases may provide some protection.

### **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.

### **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), chlorothalnil 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.

### **Leaf mold**

**Around Southwest Florida leaf mold, caused by the fungus *Fulvia fulvum*, is causing some problems in tomatoes.** This disease is usually considered to be a disease of greenhouse tomatoes, and but does appear under field conditions in Florida.

**Symptoms typically begin on older lower leaves.** Initially, pale green spots with diffuse margins appear that later turn yellow appear on the upper leaf surface. The spots are often so diffuse that the yellowing often looks like nondescript mottling. The most distinctive symptom is on the underside of leaves, where patches of olive-green, fuzzy mold consisting of masses of conidia and conidiophores can be observed.

**As lesions coalesce infected leaves curl up, wither, and may eventually drop from the plant.** Occasionally, other aboveground plant parts, including fruit, can be attacked; fruit infections result in a black, leathery lesion on the stem end.

**High relative humidity and warm to high temperatures favor disease development.** To infect tomato plants and spread in the field, the fungus requires very high humidity - in excess of 85% - for prolonged periods. These conditions occur frequently in greenhouses with poor air circulation, especially at night, but less frequently in the field.

**Conidia are dispersed by rain or wind.** The fungus can also be spread by machinery and by workers.

**Several precautions will help avoid problems from leaf mold.**

**Sanitation is important.** Clean up and destroy debris from infested fields and greenhouses to discourage overwintering of the pathogen. In the greenhouse, it is advisable to sterilize production areas once debris has been removed, either with steam or with a disinfectant.

**Since the disease may be seed borne it pays to purchase quality seeds and transplants that have been certified disease-free.** Resistant cultivars are available, but the pathogen continues to develop new races.

**In the field, staking and pruning helps improve air flow and can reduce humidity.**

**Leaf mold can be controlled effectively with a labeled contact fungicide applied on a preventative basis.** Chemicals labeled for target spot and early blight should provide control.

### **Cercospora leaf spot**

**Cercospora leaf spot is present on lettuce around Belle Glade.** It is generally a fall disease favored by warm weather but warm winter temperatures have kept it active this season. The disease is generally controlled incidentally by the application of protectant fungicides. However, inoculum comes in from weeds, so keeping clean ditch banks and disking down harvested fields are cultural practices which can help to reduce this disease.

## **News You Can Use**

### **EPA Approves New Fumigant Labels**

The EPA approved nearly all soil fumigant product labels incorporating the second phase of mitigation measures required by the 2009 Reregistration Eligibility Decisions (REDs) for the soil fumigants methyl bromide, chloropicrin, metam sodium/metam potassium, and dazomet. New risk reduction measures include buffer zones and related measures that will help protect workers and bystanders from exposure to potentially harmful airborne concentrations of these pesticides.

Measures added to labels in the first phase of implementation included Fumigant Management Plans (FMPs), good agricultural practice requirements, and new worker protection measures among other things. Phase 1 labels were approved in 2010.

Existing stocks of products bearing Phase 1 labels may be sold and distributed by registrants until December 1, 2012.

After that date, only products bearing the newly approved labels may be sold or distributed by registrants. Distributors and retailers who are not registrants may sell and distribute products until their supplies are exhausted. Likewise, growers and applicators may apply products bearing old labels until those supplies have been exhausted. (EPA OPP Update, 1/13/12).

## **Global Biopesticide Market Growing**

The global biopesticide market is outpacing the market for synthetic pesticides according to a recent statement by a chief executive of AgraQuest. Dr. Meadows-Smith pointed out that the bio-pesticide market was expanding annually at approximately 10 percent while the market for conventional pesticides was around 2 percent. The biopesticide market value has increased from \$900 million in 2000 to over \$2 billion currently. Dr. Meadows-Smith said that the U.S. is the largest market for biopesticides, currently at 36 percent of the total, followed in descending order by Europe, Asia-Pacific, Latin America, and the rest of the world. Dr. Meadows-Smith projects an overall increase in biopesticide market value to \$2.7 billion by 2015. (Crop Protection Monthly, 12/31/11 via IPMnet News, Jan./Feb. 2012).

## **In Southwest Florida, it's driest December in 73 years**

After two months of almost no rain, the Peace River is so low that Trent Anthney is cancelling trips at the Canoe Outpost. The river drops every year, exposing limestone and fossils, but usually in May, near the end of the dry season, not January. If the river gets much lower, most of the canoe runs will close, hurting business during the peak of tourist season.

Other rivers, lakes and groundwater sources throughout the 16-county Southwest Florida Water Management District are dropping, with many rivers, including the Peace, nearing record low levels.

The dry weather pattern is forecast to last through June and drought is already setting in. The U.S. Drought Monitor this week reported that most of Florida, from Sarasota to Daytona Beach and north were under moderate drought conditions. Forecasts call for the drought to persist or intensify.

Dry winters are a given in Southwest Florida, where most of the annual rainfall arrives from June to October. But this kind of dry is exceptional. December brought only a quarter-inch of rain all month, the driest December since 1938. For November and December combined, the region received less than a quarter of the typical rainfall. The two months usually bring about 4 inches of rain. Instead, rainfall totaled just under an inch, erasing the benefits the region received from a wet October.

Recently, the Peace River flowed at a paltry 605 gallons per second in Arcadia, about a third of the average flow for this time of year. That flow is close to the record low of 538 gallons set in 2008, near the end of one of the region's most severe droughts.

It is early in dry season and forecasters see no relief on the horizon.

"March and April it looks like it may even be exacerbated," said Anthony Artusa, meteorologist with the Climate Prediction Center, an agency under the National Weather Service. Artusa mostly blames La Niña, a weather pattern caused by cooler-than normal seas across the tropical Pacific. The cooler seas make the jet stream shift north, steering storm systems away from Florida and the rest of the Southeast U.S. Water resources are showing the strain. Besides the Peace, the Withlacoochee, Alafia and Myakka rivers are flowing at near record lows. The Hillsborough is also low, but not as severely.

The low water levels affect recreation and animals that live in the rivers and lakes. For ecotourism business, it hurts the bottom line. Anthney said low water attracts fossil hunters and fishermen, but drives away paddlers. "Every customer we're not getting, that's money not in our pocket," Anthney said.

Groundwater levels are also below normal throughout most of the district, especially north and south of the Tampa Bay area. Groundwater is higher than it was this time last year, but it takes a longer time for groundwater to respond to drought.

For those who rely on private wells or small water suppliers, continued lack of rain could pose problems for water quality or supply later this year.

Larger facilities, however, have enough backup supply to make it through the dry season, said Granville Kinsman, Swiftmud's water data manager. Reserves in Tampa and at the Peace River plant are plentiful. Rainfall for all of 2011 averaged about normal because of the heavy rain in October, which helped boost water supply reserves.

"We're in a lot better position than we have been in other recent years when we were going into drought. There's water to get us through this from a public supply standpoint," Kinsman said.

By Kate Spinner  
Herald Tribune  
January 25, 2012

### **Drought Information Statement**

National Weather Service, Miami FL

Moderate drought conditions expanded into Lake Okeechobee area and Metro Palm Beach area.

High pressure remained over the Florida peninsula last week which in turn has kept the area dry.

This has allowed for moderate drought conditions (d1) to develop around the Lake Okeechobee area and the metro areas of Palm Beach County. The moderate drought conditions (d1) have also continued over Southern Miami-Dade and mainland Monroe counties while rest of south Florida remained in an abnormally dry condition (d0).

Hydrological impacts...

The wells over most of south Florida have continued to run at the lowest 10 to 30 percent of normal levels with a few of them in Hendry and inland Collier counties running at the lowest 10 percent of normal levels.

The underground water reservoirs in Palm Beach County were running around 16.3 feet which is 0.2 feet above normal. In Broward County...these reservoirs were running around 12.1 feet which is near normal. In Miami Dade County...the underground water reservoirs were running around 10 feet...which is 0.3 feet above normal.

The level of Lake Okeechobee was around 13.34 feet as of January 26...which was about 1.35 feet below the normal level of 14.69 feet. The level of Fisheating Creek was 1.14 feet as of January 27...which was 1.17 feet below the normal level of 2.31 feet for this time of year.

Fire danger impacts...

As of January 26...the Keetch-Byram drought index was running between 550 and 600 over most of south Florida...except 500 to 550 in Collier and mainland Monroe counties. This puts all of south Florida in a very high risk for wildfires...except high risk in Collier and mainland Monroe counties.

Response/actions...

The South Florida Water Management District has kept all of south Florida in the yearly water restriction, which reduces water usage to 3 days a week. They have also continued the water shortage warning...which means that water shortage conditions are possible in the next 1 to 3 months if the lack of rainfall continues over



## 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

**2012 Southeastern US Vegetable Crop Handbook** is on the web and can be downloaded at:

<http://www.thegrower.com/south-east-vegetable-guide>

**The Packer** – covering the fresh produce industry since 1893 <http://www.thepacker.com/>

**As we all know - tomatoes are loaded with many, many health benefits.** In fact, they are incredibly versatile and can be prepared in a seemingly endless number of dishes, as well as being great to eat alone. Here are 10 reasons why you should be eating more tomatoes as a part of your regular balanced diet. Go to

<http://www.foodandweightloss.com/health-foods/tomato-health-benefits.php>

SW Florida Vegetable Grower Facebook Page providing up-to-date news for vegetable growers and industry reps on the go! Become a friend - <http://www.facebook.com/?ref=home#!/pages/SW-Florida-Vegetable-Grower/149291468443385>

### Quotable Quotes

One man alone can be pretty dumb sometimes, but for real bona fide stupidity, there ain't nothin' can beat teamwork. - Edward Abbey

You cannot raise a man up by calling him down. - William Boetcker

There are two levers for moving men -- interest and fear. - Napoleon Bonaparte

The mighty Oak was once a little nut that stood its ground. – Anon

Remember, if you ever need a helping hand, you'll find one at the end of your arm ... As you grow older you will discover that you have two hands. One for helping yourself, the other for helping others. - Audrey Hepburn

### On the Lighter Side

#### Things I've Learned

Written by Andy Rooney , a man who has the gift of saying so much with so few words ...

I've learned.... That the best classroom in the world is at the feet of an elderly person.

I've learned.... That when you're in love, it shows.

I've learned.... That just one person saying to me, 'You've made my day!' makes my day.

I've learned.... That having a child fall asleep in your arms is one of the most peaceful feelings in the world.

I've learned.... That being kind is more important than being right.

I've learned.... That you should never say no to a gift from a child.

I've learned.... That I can always pray for someone when I don't have the strength to help him in some other way.

I've learned.... That no matter how serious your life requires you to be, everyone needs a friend to act goofy with.

I've learned.... That sometimes all a person needs is a hand to hold and a heart to understand.

I've learned.... That simple walks with my father around the block on summer nights when I was a child did wonders for me as an adult.

I've learned.... That life is like a roll of toilet paper. The closer it gets to the end, the faster it goes.

I've learned... . That we should be glad God doesn't give us everything we ask for.

I've learned.... That money doesn't buy class.

I've learned.... That it's those small daily happenings that make life so spectacular.

### **Father Murphy**

Father Murphy walks into a pub in Donegal, and asks the first man he meets, 'Do you want to go to heaven?' The man said, 'I do, Father.' The priest said, 'Then stand over there against the wall.'

Then the priest asked the second man, 'Do you want to go to heaven?' 'Certainly, Father,' the man replied. 'Then stand over there against the wall,' said the priest.

Then Father Murphy walked up to O'Toole and asked, 'Do you want to go to heaven?' O'Toole said, 'No, I don't Father.'

The priest said, 'I don't believe this. You mean to tell me that when you die you don't want to go to heaven?'

O'Toole said, 'Oh, when I die, yes. I thought you were getting a group together to go right now.'

### **Annual 'Stella Awards'!**

These awards, are named after 81-year-old Stella Liebeck who spilled hot coffee on herself and successfully sued the McDonald's in New Mexico, where she purchased coffee. As you may remember, she took the lid off the coffee and put it between her knees while she was driving. Who would ever think one could get burned doing that, right?

These are awards for the most outlandish lawsuits and verdicts in the U.S. You know the kind of cases that make you scratch your head. Here are the top three Stellas for 2011.

#### **THIRD PLACE**

Amber Carson of Lancaster, Pennsylvania because a jury ordered a Philadelphia restaurant to pay her \$113,500 after she slipped on a spilled soft drink and broke her tailbone. The reason the soft drink was on the floor: Ms.

Carson had thrown it at her boyfriend 30 seconds earlier during an argument. What ever happened to people being responsible for their own actions?

## SECOND PLACE

Kara Walton, of Claymont, Delaware sued the owner of a night club in a nearby city because she fell from the bathroom window to the floor, knocking out her two front teeth. Even though Ms. Walton was trying to sneak through the ladies room window to avoid paying the \$3.50 cover charge, the jury said the night club had to pay her \$12,000....oh, yeah, plus dental expenses. Go figure.

## FIRST PLACE

This year's runaway First Place Stella Award winner was: Mrs. Merv Grazinski of Oklahoma City , Oklahoma , who purchased new 32-foot Winnebago motor home. On her first trip home, from an OU football game, having driven on to the freeway, she set the cruise control at 70 mph and calmly left the driver's seat to go to the back of the Winnebago to make herself a sandwich not surprisingly, the motor home left the freeway, crashed and overturned. Also not surprisingly, Mrs. Grazinski sued Winnebago for not putting in the owner's manual that she couldn't actually leave the driver's seat while the cruise control was set. The Oklahoma jury awarded her, are you sitting down? \$1,750,000 PLUS a new motor home. Winnebago actually changed their manuals as a result of this suit, just in case Mrs. Grazinski has any relatives who might also buy a motor home.

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

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