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SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE

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What a weather roller coaster the past month has been! Hot and cold, wet and dry and back again. A pair of strong cold fronts this past weekend bought the lowest temperatures of the season to most parts of south Florida bringing widespread frost to many areas on Saturday morning and again this morning in contradiction of El Niño predictions of decreased probability of winter freezes for Florida. This is quite a contrast to last month, which was one of the warmest on record.

All areas reported significant rainfall for the period most of which accumulated on several distinct events associated with unsettled weather and frontal passage. Highest accumulations were reported from Balm, followed by Fort Lauderdale, Homestead. In addition to rain, fog and heavy dews and periods of mostly cloudy weather has continued to favor disease development in many areas over the past few weeks.

Back to back frosts beginning and ending this past weekend caused varying amounts of crop damage across the area – most growers in South Florida escaped serious damage. The major exception being around Belle Glade where thousands of acres of corn and beans where reported severely damaged or destroyed by temperatures as low as 24^{o} F.

FAWN Weather Summary

Date	Air Temp °F		Rainfall	Hours Below Certain Temperature (hours)							
	Min	Max	(Inches)	40°F	45°F	50°F	55°F	60°F	65°F	70°F	75°F
Balm											
1/12 – 2/19/07	**31.2**	**77.4**	**4.24**	**19.3**	**3.9**	**30.3**	**5.1**	**37.7**	**63.6**	**154.4**	**217.9**
Ft Lauderdale											
1/12 – 2/19/07	**39.6**	**87.3**	**2.99**	**0.3**	**9.2**	**11.9**	**20.6**	**34.2**	**8.1**	**34.3**	**51.5**
Fort Pierce											
1/12 – 2/19/07	**31.5**	**83.9**	**0.35**	**14.7**	**3.8**	**36.7**	**20.9**	**13.3**	**3.3**	**47.2**	**154.4**
Homestead											
1/12 – 2/19/07	**32.4**	**84.7**	**1.80**	**1.1**	**6.0**	**13.8**	**8.9**	**0.7**	**19.3**	**44.1**	**79.5**
Immokalee											
1/12 – 2/19/07	**30.8**	**84.2**	**N/A**	**11.8**	**30.0**	**16.2**	**2.9**	**7.1**	**24.5**	**21.5**	**102.6**

Crops coming to market include cabbage, celery, cucumbers, eggplant, endive, escarole, lettuce, okra, parsley, peppers, radishes, snap beans, squash, strawberries, sweet corn, tomatoes, and specialty items. Quality is mostly good. Strawberry producers are glad for cooler temperatures in February, which favor berry development and growth.

The short-term forecast from the National Weather Service in Miami calls a gradual warming trend through the coming week with daytime highs reaching into the 80s by weekend and nighttime lows in the 40's, 50's, and 60's towards weekend. For additional information, visit the National Weather Service in Miami website at **http://www.srh.noaa.gov/mfl/newpage/index.html**

Insects

Whiteflies

Reports from Homestead indicate that whitefly pressure has been heavy. Some growers indicate that they are having a trouble achieving control with Admire, Provado, Knack and other common insecticides. TYLCV and Bean Golden mosaic are becoming more prevalent.

Respondents on the East Coast indicate that whitefly numbers are moderate to heavy in tomato and on newly planted squash and cucumbers especially those located near older tomato fields. Some problems with silverleaf have been noted in squash.

Light whitefly activity is being reported in most fields around Manatee County with numbers diminished by recent cold snaps. Reports of whitefly on regrowth in abandoned fields, which is now cleaned up for the most part has been received and growers expect that whitefly numbers will rebound once the weather warms.

Around Immokalee, whiteflies are moving around between fields and farms and numbers are going up in most locations. TYLCV symptoms are also becoming more common and we are starting to see the start of some typical spring flare up of this virus.

Some growers around Immokalee have commented that whiteflies appear to be coming out of the woods and that TYLCV incidence is often surprisingly high in relatively isolated fields.

Commenting on this observation, Dr Phil Stansly, Entomologist at UF/IFAS Southwest Florida Research and Education Center in Immokalee comments while this may seem to be the case to growers that in a two year study using yellow sticky traps, whitefly movement was generally from crops to weeds except at the beginning of the fall planting season.

Given that TYLCV has a relatively broad host range that does include some weeds, but with whiteflies generally going the other direction, weeds are probably not a primary sources of virus except possible in the very early season.

Phil comments further that while whiteflies and other small plant feeding insects are able to make short flights from plant to plant within a given field on their own, they are forced to attempt longer flights when they find themselves surrounded by senescing plants. This often results in them being carried up in air currents including thermals to where they are carried pretty much passively in the breeze with no more control than either to fly or not.

Cypress heads and wooded areas act as barriers to the wind current a good distance above the ground, reducing air velocity and causing turbulence and downdrafts. The whiteflies then settle around these obstacles just like fine sand around a stone in a stream. Following the fall harvest, whiteflies carrying virus

from infected fields become airborne moving long distances in the winds to later descend around cypress heads and tree lines – seemingly coming out of the woods to initiate new foci of virus infection.

Thrips

Respondents on the East Coast are reporting serious problems with western flower thrips (*Frankliniella occidentalis*) in numerous locations from Fort Pierce to Boca Raton. Sources indicate that the thrips species have been positively identified by reputable sources.

Growers and scouts are reporting problems with heavy infestations on pepper, eggplant, tomato, cucurbits and specialty items like basil and cilantro. Damage includes etching and russeting of fruit and foliage. Reports indicate that growers are able to beat them back but have had difficulty in obtaining long-term control. Problems are said to be worse in planting close to older existing fields.

Around Immokalee, thrips are becoming a little more common but so far counts per bloom have been very low and crop damage negligible. Unlike the situation on the East Coast it appears like nearly all are Florida flower thrips (*Frankliniella bispinosa*).

A few thrips are also showing up around Manatee County.

Chilli thrips (*Scirtothrips dorsalis*) was detected in Florida in 2005. It has since been found throughout South and Central Florida mainly on ornamentals. It has been recorded throughout the world from over 100 hosts including tomato, pepper, strawberry, soybean, peanut, banana, bean, eggplant, castor beans (see http://www.doacs.state.fl.us/pi/enpp/ento/chillithrips.html for full host list).

It is extremely difficult to differentiate chilli thrips from other thrips in the field. Feeding can severely deform leaves and/or fruits, leaves and flower buds can drop, or leaf tissue can look scraped. Leaf symptoms can resemble broad mite damage. This thrips has also been reported to transmit several viruses. If you believe you have chilli thrips, please contact your local extension agent or the Cooperative Agricultural Pest Survey: http://www.doacs.state.fl.us/pi/caps/index.html

Leafminer

Growers and scouts in around Southwest Florida report that leafminer pressure continues to be "horrible" with some growers are calling it one of the worst years ever and scouts reporting that they just keep coming even though they have killed millions. Leafminer pressure continues to be high in a variety of crops including tomato, cucurbits, eggplants, beans and peppers. Adults are moving from older plantings in younger fields and new waves of larvae are common in young tomatoes.

Reports from Homestead, indicate that leafminer are widespread and causing problems in tomato, squash, bean and other crops.

Around the Manatee/Ruskin area, light leafminer activity is being reported in most fields.

Respondents in Palm Beach report that leafminer pressure has eased up in most places over the past few weeks.

Reports from around Belle Glade indicate that leafminer adults are working overtime on sensitive leafy vegetables. Respondents indicate that several of the spring mix type leafy vegetables are showing elevated levels of stippling due to female leafminers.

Leafminers attack many row crops but are particularly damaging on celery, crucifers, cucurbits, okra, potato and tomato. Florida growers report that leafminers are the second most important tomato insect pest especially in south and central production areas. Leafminers are present for much of the year in Florida. In south Florida, populations peak between October and March while in central Florida they are a problem in both spring and fall.

Leafminer injury is readily visible to the grower but healthy plants can tolerate considerable damage without excessive loss of vigor and yield. The Florida Tomato Scouting Guide sets action thresholds at 0.7 larva per plant for young plants with less than 2 true leaves and 0.7 larva per 3 terminal leaflets for larger plants. Heavily damaged leaves will often drop, due in part to entry of pathogenic organisms into old mines.

An integrated pest management program that stresses conservation of natural enemies is the primary tactic for the successful control of leafminer. Chemical control is 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 field densities of leafminer parasites.

Fortunately, populations are usually prevented from reaching truly damaging levels by a number of parasites that attack leafminers. Several parasites for this insect have been recorded in Florida, but parasitic wasps such as *Opius*, *Diglyphus* are most common. Wasp larvae develop on or in the leafminer larva or pupa. The host ceases to feed and the parasitoid egg or larva is visible through the leaf epidermis using a hand lens against strong light. In scouting fields, growers should be careful to note the number of parasitized mines before deciding to apply insecticides.

Due to its feeding habit, this pest is resistant to many insecticides. 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. Spinosad (Spintor, Entrust) has also given good results and is labeled on a wide range of crops. Some other materials that may be used to conserve beneficials include azadirachtin (Neemix) and insecticidal oils. Neemix and Entrust are approved for use by organic growers.

Field sanitation is an important control tactic that is overlooked. When crops are not present in the fields, leafminers can survive on a variety of broad-leaf weeds. These plants serve as reservoirs for pest.

Doug Restom Gaskill of the FDACS Cooperative Agricultural Pest Survey (CAPS) Program reports the California pea leaf miner (*Liriomyza langei* - formerly *L. huidobrensis*) is not established in Florida, but is a serious pest of many crops in California where it has become difficult to control. Unlike leaf miners known from Florida, which produce irregular serpentine mines in the leaf, the California pea leaf miner mines on the lower surface of the leaf near the midrib and lateral veins. Frass is deposited in a thin line down the middle of the mine. The host range is broad and includes tomato, pepper, potato, melon, pea, bean, celery, lettuce (see links below for full host list).
http://www.doacs.state.fl.us/pi/enpp/ento/entcirc/ent378.pdf
http://www.doacs.state.fl.us/pi/enpp/ento/pealeafminer.html
http://www.doacs.state.fl.us/pi/enpp/ento/peamin.html

If you believe you have the California pea leaf miner, please contact your local extension agent or the Cooperative Agricultural Pest Survey: http://www.doacs.state.fl.us/pi/caps/index.html

Worms

Around Southwest Florida, growers and scouts indicate that although worm pressure has eased somewhat over the past few weeks pressure has remained steady into the New Year, with new egg masses being found this past week. Reports from chemical vendors confirm this indicating that based on levels of Bt

sales this fall and winter has been a "wormy" one. Main species include southern and beet armyworms and loopers.
Respondents around Manatee County report that worm pressure remains mostly low with very few eggs and egg masses being detected by scouts.

On the East Coast growers and scouts report s indicate that worm pressure is mostly low with a few exceptions. Some problems have been noted with pickleworms in cucumbers planted close to older fields and scouts report that pinworms are building in a few places on tomato and eggplant.

Aphids

Around Immokalee, aphid pressure is increasing in several crops.

Reports from Palm Beach County indicate that few winged aphids are being detected but note that colony formation is present in a number of crops including eggplant, pepper squash and specialty items including oriental brassicas.

Around Manatee County, a few aphids are being detected in sticky traps and low levels are present in some fields.

Broad Mites

Growers and scouts on the east coast indicate that broadmites are still around and causing some problems in eggplant and pepper.

Around SW Florida repots indicate that broadmites are present in low numbers in a number of places and could flair up under the right conditions.

Note: Chilli thrips (*Scirtothrips dorsalis*) feeding damage at times resembles broadmite damage. If you are having difficulty with broadmite damage, you may want to check to see if you are having problems with chilli thrips.

Pepper Weevil

Around Southwest Florida, pepper weevil numbers are building in several older fields and new infestations are showing up in spring plantings.

Reports indicate that weevil numbers are being to build around Palm Beach County.

Diseases

Late Blight

Late blight continues to plague growers around Southwest Florida and is widely present across the area. Favorable conditions over the past month to six weeks have contributed to the high level of pressure being reported by growers.

Although many growers report that they have been successful in keeping late blight "contained", this is a relative term as disease occurrence and severity is a function of the presence of a pathogen (late blight innoculum is wide spread at this point), a susceptible host (plenty of tomatoes and potatoes out there) and a favorable environment. Environmental conditions for the development of late blight have been very favorable since Thanksgiving with heavy dew, numerous foggy morning and scattered showers at frequent

intervals, which has undoubtedly contributed to the severity of the outbreak. Under such conditions, even seeming dry inactive lesions are capable of flare back up and becoming active when environmental conditions change.

There have been reports of several fields around Immokalee that were destroyed because disease levels were so high and many others with very bad late blight problems. There have been multiple reports of infected transplants coming from a number of transplant houses so growers would be well advised to examine plants carefully.

Some growers report that they have had to work like crazy to gain control but there are some locations where the growers have never really gotten ahead of the disease. Spraying once a week will never control it.

Scout also report finding late blight on volunteers around the entire area, on volunteers in row middles, around field edges and in fallow areas. Some of those little tomato volunteers that sprout up along the end of the beds prior to planting can and are developing late blight symptoms before the crop is planted. There have also been a number of reports of late blight on transplants

Reports from SW Florida indicate that organic producers have been having a particularly hard time with the disease.

Respondents on the East Coast report that they are also beginning to find late blight infections in a number of widely scattered locations from potatoes in Martin County to tomatoes from St Lucie County down to Palm Beach.

Respondent in Homestead report that late blight has been confirmed in Homestead and is spreading rapidly in tomato. Late blight has also been diagnosed on eggplant fruit.

Presence of late blight has also been confirmed in West Central Florida.

Late blight can easily devastate a tomato or potato field within a few weeks if it is not properly controlled. 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. Since late blight symptoms may be confused with symptoms of other diseases, the following diagnostic pointers may help growers distinguish between the late blight and other diseases.

Late blight symptoms on leaves appear as irregularly shaped brown to purplish lesions with indefinite border lesions can span veins. The lesions may be seen any time of day, on any stage of plant growth and on leaves of any age. Leaf lesions often have a characteristic crystal-like growth of the fungus on the underside of the leaf lesions especially early in the morning before leaves dry and/or in the lower canopy.

On stems, symptoms are often striking appearing like dark brown to black grease painted on the stems. Lesions may be seen any time of day and may be found any where on the stem. Cottony, white growth of fungus on stems with lesions can often be seen early in the morning and/or in the lower canopy. Stems with lesions are brittle and break easily. Lesions are confined to epidermis and cortex. Leaf rolling and wilting is often associated with stem lesions and purpling of leaflets may occur in some varieties.

The disease thrives under cool and wet conditions. Temperatures between 50 and 80^{o}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.

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. Newer products such as Curzate (DuPont) boast "kick back" action that can help arrest infestation if applied within 48 –72 hours of initial infection. 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 under the conditions we have had during the past two weeks.

In light of the widespread presence of the disease across much of South Florida, growers should be alert for the appearance of symptoms in their fields as well as be sure to apply protective fungicides such as chlorothalonil. In addition, it may not a bad idea to put out an application of the late blight fungicide of your choice - Previcur Flex (Bayer Crop Science), Reason (Bayer Crop Science), Curzate (DuPont), Forum (BASF) to help prevent possible infections. No other disease will find an unprotected field as rapidly as late blight.

Testing by Dr. Pam Roberts at the UF/IFAS SWFREC in Immokalee and by Syngenta pathologists at the Vero Beach Research Center has shown isolates of the current field strain of late blight on tomatoes to be sensitive to mefenoxam, the active ingredient in Ridomil products.

Dr. Pam Roberts, Plant Pathologist at UF/IFAS SWFREC has launched a website that pulls together current information on late blight from various sources and which will help keep growers appraised of the late blight situation in Florida. You can check out the Late Blight Information Center at http://swfrec.ifas.ufl.edu/plant/late_blight/

Bacterial Spot

Growers and scouts on the East Coast continue to report widespread problems with bacterial spot on pepper and tomato. Incidence and severity is moderate to high in many places. Bacteria is reported to be especially bad on pepper in places.

Around Immokalee, bacterial spot is present in both tomato and peppers and transplants. Several tomato fields have new lesions across the top foliage and also fruit infections but is not causing the concern that late blight is. Incidence and severity is mostly low in pepper.

Reports from Homestead indicate moderate bacterial spot pressure continues to be present in a number of tomato fields.

Around Manatee County bacterial spot is mostly low but increasing in places in response to wind and rainy weather.

TYLCV

Around Southwest Florida, tomato yellow leaf curl virus symptoms are becoming more common and growers and scouts are reporting the start of the typical spring increase in the incidence of this virus. Several fields are in the 5-10% range and there are some hotspots around that are much higher, over 50%.

Growers and scouts in Manatee County report the presence of some TYLCV on early planted fields and on plants in the ground 4-5 weeks, but note that many fields are still too young for symptoms to be visible. In general, virus numbers are very low.

Respondents on the East Coast report TYLCV also beginning to increase but remains mostly low with a few hotspots around especially around older plantings.

Reports from Homestead indicate that TYLCV is an issue in tomato. Some reports suggest that TYLCV incidence on tomato and BMG on beans may be higher than this time last season.

Target Spot

Respondents on the east Coast indicate that target spot is increasing and is widely present in tomato. Incidence and occurrence is high in some older plantings.

Around Southwest Florida, target spot continues to work on tomato taking out the inner as plants reach maturity. Plum types appear to be more susceptible.

Alternaria

Respondents on the East Coast report that early blight is present in a number of scattered locations and is causing problems on some fruit being held on the bush.

Around Manatee County early blight is present on tomato. Incidence and occurrence is mostly low.

Respondents from Homestead indicate that Alternaria is widely present in beans and is affecting pods in some instances. Reports indicate that Alternaria is also widely present on tomatoes.

Downy Mildew

Around Immokalee downy mildew continues to be a problem cucumbers and squash and has reached moderate to high levels in some older fields. Organic growers are having particular difficult in achieving control and disease is a limiting yields.

On the East Coast, downy mildew is widely present on cucumbers affecting many planting by the 2-3 leaf stage. Incidence and severity is heavy in some double crop situations.

Around Homestead, reports indicate lots of downy mildew on cucumbers and melons

Leaf symptoms can be used to diagnose downy mildew in the field in most cases. On cucurbits other than watermelon, small yellowish areas occur on the upper leaf surface. Later, a more brilliant yellow coloration occurs with the internal part of the lesion turning brown.

Usually the spots will be angular as they are somewhat restricted by the small leaf veins. When the leaves are wet, a downy white-gray-light blue fungus growth can be seen on the underside of individual spots (lesions). As the disease develops an exaggerated upward leaf curling will often occur.

Some growers are reporting good control using high rates of Previcur alternated with Ranman. They stress that it important to begin application early before symptoms are seen, even as early as the first true leave stage.

Downy Mildew on Lettuce

Dr. Raid notes that lettuce downy mildew, caused by *Bremia lactucae*, is present in south Florida and all lettuce growers should be on a strict preventative spray program and scouting heavily for this disease. So far, it has not been reported on muck-grown lettuce.

Fungicide programs that have proven very effective when applied in a preventive mode have been tank-mixtures of a phosphonic fungicide and maneb, rotated with a fungicide of an activity dissimilar to the phosphonics. Rotational prospects are dimethomorph (Forum or Acrobat), Previcur Flex, Reason, and Tanos. Manidipropamid (Revus) has also shown good activity in trials and may soon have a label for this particular crop and disease, but as of this moment, registration is still pending.

Powdery Mildew

Growers and scouts around South Florida are reporting increasing problems with powdery mildew on squash and cucumbers. Incidence and severity is high in some older fields. Powdery mildew is more wide spread and a bigger problem in squash.

Reports indicate that powdery mildew is also widely present on cucurbits on the east Coast. A few reports of powdery mildew on pepper have also been received.

Powdery mildew is also widely present on squash around Homestead.

Sclerotinia

East Coast growers and scouts continue to report some problems with Sclerotinia on pepper, eggplant and tomato. Dr. Ken Pernezny reports that finding Sclerotinia in pepper is a little surprising considering how warm it has been. He advises that scouts and others should look for the tell-tale black sclerotia inside the stems of wilted pepper plants. In response to questions about the source of inoculum, he reports little if any direct germination and infection occurs from sclerotia. Most all of the inoculum occurs from ascospores which form in specialized structures called ascocarps that develop off the sclerotia. These then become **windborne** and are transported to susceptible hosts such as pepper, tomato, and eggplant. Growers need to look to special exemption uses such as Topsin-M for control, as many general-purpose fungicides are not that good for Sclerotinia.

Around Immokalee, Sclerontinia has been showing up in a number of crops including tomato, pepper, potatoes, beans and watermelons. Incidence and occurrence is mostly low.

Fusarium

Around Immokalee, fusarium crown rot is increasing in tomato. Reports indicate that incidence is as high as 10 –12% in some older fields

Scattered problems with fusarium on pepper have also been noted on the East Coast.

Gummy Stem Blight

Gummy stem blight is present on cucurbits at mostly low levels in a number of locations around South Florida. There have been some reports of infected transplants.

Scouts report that gummy stem blight is also causing problems in cucumbers on the East Coast.

Pythium

Growers and scouts in several locations including SW Florida and Manatee reports some problems with pythium following recent rains.

Phythophthora

Respondents from Palm Beach County report some problems with Phythophthora especially in places where it has traditionally given trouble.

Gray Wall

Several growers around Southwest Florida have reported problems with gray wall over the past few weeks. Incidence and severity has ranged from low to fairly high in some cases.

Scattered problems with gray wall have also been reported in Palm Beach County.

Gray wall is commonly observed in Florida tomato growing areas during periods of low light and morning fog, and during the winter and spring tomato production windows. The exact cause of gray wall is elusive. The fruit defect is associated with a wide variety of environmental conditions including, but not limited to, high nitrogen, low potassium and compacted soil conditions or growing medium. TMV, certain bacteria and fungi are also thought to be contributing factors to the development of gray wall.

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

Management Tips for the Prevention of Gray Wall

1. Use gray wall tolerant varieties
2. Plant only varieties that offer TMV resistance Academic research indicates a greater incidence of gray wall in non-TMV resistant varieties.
3. Watch the weather An awareness of predicted cold fronts or rainy conditions allows the grower to implement early preventative crop management steps that may help reduce gray wall. Such steps may include de-leafing above the bottom truss to allow more light penetration to the crop, increasing K fertilization levels, and reducing the frequency of irrigations.

News You Can Use

EPA Authorizes Critical Uses of Methyl Bromide for 2007

(Washington, D.C. - Dec. 12, 2006) In accordance with the Clean Air Act and Montreal Protocol, EPA has issued final methyl bromide production and import critical use exemptions for 2007. EPA also authorized uses that qualify for the 2007 critical use exemption. The exemptions for continued production and import of methyl

bromide will honor the U.S. commitment to obtain methyl bromide for American farmers, in a manner consistent with the Montreal Protocol, while protecting the ozone layer.

This action is authorizing 6,230,655 kilograms (6,230.7 metric tonnes, or 24.4 percent of baseline) of methyl bromide for approved critical uses during 2007, such as strawberry and tomato production, as well as commodity fumigation. The United States originally requested an amount equivalent to 29 percent of historic 1991-baseline consumption. A total of 26.4 percent of baseline, or 6,749,060 kilograms (6,749 metric tonnes), was authorized at the 17th Meeting of the Parties in Dakar, Senegal, in December 2005. The authorized amount was adjusted was to account for the increased use of alternatives among methyl bromide users.

Critical use exemptions are permitted under the Montreal Protocol for circumstances where there are no technically and economically feasible alternatives to methyl bromide. Further, the Clean Air Act Amendments of 1990 direct the EPA to issue regulations to implement the provisions of the Montreal Protocol within the United States.

Allowance decisions for 2008 were made at 18th Meeting of the Parties to the Montreal Protocol in New Delhi, India during Oct. 30-Nov. 3, 2006. For 2008, the U.S. request was revised to 23 percent of baseline, and a total of 21 percent was authorized. EPA is beginning the notice-and-comment rulemaking process for the 2008 calendar year.

More information on the final rule: http://www.epa.gov/ozone/mbr Contact: John Millett, (202) 564-4355 / millett.john@epa.gov

What is El Niño doing now?

The Southeast Climate Consortium recently released a "Late Winter Climate Outlook"

The current El Niño reached its peak intensity in late December. Since reaching their peak, sea surface temperatures in the Pacific have begun cooling off. However, they remain warm enough to be still considered within the El Niño phase. El Niño conditions should continue through March, before returning to neutral in the spring or early summer.

What can we expect for the remainder of the winter (Feb-March)?

The typical above normal rainfall and cooler temperatures associated with El Niño have been largely absent or inconsistent for the first half of winter. Most of the Southeast has enjoyed unusually warm weather and only portions of the region have seen excess rainfall, contrary to earlier predictions. However, given that El Nino is expected to last for the remainder of the winter, above normal rainfall and cooler temperatures in February and March remains the best forecast for Florida, South Georgia, and South Alabama. In April, rainfall usually returns to near normal, regardless of El Niño conditions. There remains a decreased risk of severe winter freeze events in Florida. In Georgia and Alabama late season freezes are concerns for many operations and is still a possibility, although they are not linked to El Niño. (This past weekends dual frost events proves the exception – GM)

Could Early Summer be dry?

Often following an El Niño winter, May and June tend to be drier than normal (10% - 30%). However, the early summer El Nino effects are less consistent than El Nino effects during winter months. In addition, the current El Niño is weakening quickly and may not have any effect in early summer. Therefore, while there is a risk of drier than average conditions in May and June, there is limited confidence in this forecast.

For more detailed information on El Niño climate shifts in your particular county, please refer to the *Climate Risk Tool* at *AgClimate* - http://www.agclimate.org/Development/apps/agClimate/controller/perl/agClimate.pl?function=climforecast/outlook.html&location=local&type=html&primary=2&major=1&sub=2

American Black Nightshade Interference in Watermelon

American black nightshade is a problematic weed in watermelon production, especially in south Florida. When watermelon production follows tomato or pepper, the 3 major weeds are nutsedge, nightshade, and pigweeds (Amaranths). In 1997, Terry et al. found that 6 smooth amaranth (pigweed) per meter, competing season-long in watermelon, reduced yield 100%. Buker et al. (2003) found that 2 yellow nutsedge plants per square meter reduced watermelon yield 10% while 25 plants/m 2 reduced yield 50%. Until this past year, there was no herbicide to control nightshade in watermelon beds other than methyl bromide.

Celeste Gilbert, a graduate student, has completed a 2-year study, at 2 locations looking at the competition of American black nightshade in watermelon. Nightshade was planted in watermelons at 2, 4, 6, and 8 plants/m 2. Reduction in yield was calculated against a nightshade-free check. She ran 2 experiments, 1 with open culture (non-mulched) produced melons, and another with watermelons grown on polyethylene mulch.

In both years, watermelon grown on mulch had higher yields than those grown on open culture. Yields were also greater for melons grown in 2006 than 2005. 2005 was a cooler, wetter year and watermelons did not produce as well.

Percent yield loss of watermelon at 2 nightshade/m 2 was 100% in 2005 on non-mulched produced watermelons. In 2006, the yield loss was 68% at 2 nightshade/m 2 and up to 93% at 8 nightshade/m 2 competing with the watermelon.

When watermelon was produced on mulch, the yield loss in 2005 was 80 to 98% at 2 to 8 nightshade/m 2, and in 2006 the yield loss was 54 to 88% at 2 to 8 nightshade/m 2.

The bottom line is that watermelon is a poor competitor with weeds. In these studies as with the others, the number of melons produced followed the same trend as the yield. The size and quality of the melons were not affected by the weed competition. Weeds seem to impact fruit set more than fruit quality.

Sinbar now (2006) has received labeling for use in watermelon. Sinbar does control both nightshade and amaranth. If nightshade is a problem in the fields to be planted to watermelon, it would be advisable to consider its use.

By Dr. William Stall, Professor, Horticultural Sciences Dept, UF/IFAS Vegetarian Newsletter, February 2007

Topsin M Fungicide and Watermelon Vine Decline

In a recent communication from Cerexagri regarding Topsin and vine decline, I have been asked to provide a clarification regarding statements on the Topsin label indicating effectiveness against vine decline.

Growers should be aware that there are several different watermelon diseases that are referred to as vine decline in various parts of the country.

Topsin M has been labeled for many years for the suppression of the fungal pathogen, *Monosporascus*, sometimes-called root rot and vine decline.

This disease is completely distinct from the watermelon disease commonly referred to as watermelon vine decline that first appeared in Florida in 2003 and has since caused significant losses to growers.

Watermelon producers are advised that local watermelon vine decline is a caused by a virus and is not controlled by Topsin M.
Topsin M does have a place in watermelon disease control and has locally systemic activity on cucurbits for powdery mildew, gummy stem, anthracnose, target spot, belly rot and charcoal rot.

CAPS Needs Your Help

The Cooperative Agricultural Pest Survey (CAPS) Program is a combined effort by state and federal agricultural agencies to conduct surveillance, detection, and monitoring of exotic plant pests of agricultural and natural plant resources and biological control agents. Survey targets include plant diseases, insects, weeds, nematodes, and other invertebrate organisms.

If you think you may have a new pest, please contact your local extension agent or a CAPS representative: http://www.doacs.state.fl.us/pi/caps/index.html

Pesticide Labeling Issues and Food Safety

Dr Phyllis Gilreath, Vegetable Agent in Manatee County reports that a situation came up recently where a tomato grower underwent a third party audit and he was questioned and threatened with crop rejection because he did not have the correct label.

In this case, the product happened to be Monitor. The primary Monitor label does not have tomatoes on the label.

The label, which does include Monitor for tomatoes, is a Section 24C label that is issued as a supplemental label based on a special local needs registration.

You MUST have this supplemental label in your possession to be legal! This is also true for other materials with a Special Local Need registration and labeling.

Make sure your pesticide distributor provides you with any supplemental labeling that you will need. Sometimes if you buy jugs that come in a carton, look in the bottom of the carton before you discard it. The supplemental label may be there.

In today's world of extreme scrutiny, especially in food safety issues, you can't overlook anything. This is one requirement that is not hard to meet. Growers - make sure you ask for supplemental labeling. Suppliers - make sure you give your customers supplemental labeling when required.

Up Coming Meetings

Manatee County

March 13, 2007 — **CORE/Private Applicator and Ag Restricted Pesticide Applicator License Training and Testing**. 9:00 – 11:00 AM

Manatee County Extension Office
Palmetto, Florida
Contact Phyllis Gilreath at 941-721-4524 for more information.

Palm Beach County

March 5, 2007	**General Standards/Core Test Review** (4 CEUs)	8:00 - Noon
	Aquatic Weed Control Test Reviw (2 CEUs)	**1**:00 pm - 3:00 PM

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

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

March 7, 2007	**General Standards/Core Test Review** (2 CEUs)	8:00 – 10:00 AM
	Private Applicator Test Review (2 CEUs)	1:00 pm - 3:00 PM

Belle Glade Extension Office
2976 State Road 15
Belle Glade, Florida

Contact 561-996-1655

Southwest Florida

February 27, 2007	**Worker Protection Standard Train the Trainer**	8:30 AM - Noon

Hendry County Extension Office
1085 Pratt Boulevard
LaBelle, Florida

Contact Gene McAvoy at 863-674-4092 for details

March 5, 2007	**General Standards/Core Test Review**	8:00 - Noon
	Private Applicator Test Review	1:00 – 5:00 PM

Hendry County Extension Office
1085 Pratt Boulevard
LaBelle, Florida

Contact Gene McAvoy at 863-674-4092 for details

March 6, 2007	**Row Crop /Tree Crop Test Review**	8:00 - Noon
	Aquatic Test Peview	1:00 – 5:00 PM

Hendry County Extension Office
1085 Pratt Boulevard
LaBelle, Florida

Contact Gene McAvoy at 863-674-4092 for details

March 12, 2007	**General Standards/Core Test Review (Spanish)**	8:00 - Noon
	Hendry County Extension Office 1085 Pratt Boulevard LaBelle, Florida	
	Contact Gene McAvoy at 863-674-4092 for details	
March 5, 2007	**Private Applicator Test Review (Spanish)**	8:00 - Noon
	Hendry County Extension Office 1085 Pratt Boulevard LaBelle, Florida	
	Contact Gene McAvoy at 863-674-4092 for details	

Other Meetings

March 6-9, 2007	**2007 MSU Greenhouse Tomato Short Course**
	Eagle Ridge Conference Center Raymond, Mississippi.
	For more information, see the web site http://www.greenhousetomatosc.com or contact
	Dr. Richard G. Snyder, Mississippi State University (601) 892-3731 Email: RickS@ra.msstate.edu

Websites

USDA Preharvest Security Guidelines and Checklist 2006 – this document provides preharvest security resources and guidelines for agricultural producers to help reduce security risks. The USDA Preharvest Security Guidelines and Checklist 2006 is available at http://www.usda.gov/documents/PreHarvestSecurity_final.pdf.

Late Blight Information Center – Dr Pam Roberts, Plant pathologist at UF/IFAS Southwest Florida Research and Education Center has launched a website that pulls together current information on late blight from various sources and which will help keep growers appraised of the late blight situation in Florida. Go to **http://swfrec.ifas.ufl.edu/plant/late_blight/**

Quotable Quotes

A liberal is a man too broadminded to take his own side in a quarrel. - Robert Frost

A bank is a place where they lend you an umbrella in fair weather and ask for it back when it begins to rain. - Robert Frost

A diplomat is a man who always remembers a woman's birthday but never remembers her age. - Robert Frost

The reason why worry kills more people than work is that more people worry than work. - Robert Frost

The world is full of willing people, some willing to work, the rest willing to let them. - Robert Frost

I'm against a homogenized society, because I want the cream to rise. - Robert Frost

On the Lighter Side

Bible Studies

A young lad had just passed his motorcycle test and asked his dad, if they could discuss his use of the dad's TRIUMPH.

His dad said he'd make a deal with his son. "You bring your 'A' level grades up from a C to a B, study your Bible a little, get your hair cut and we'll talk about the bike."

The lad thought about that for a moment, decided he'd settle for the offer and they agreed on it.

After about 3 months his father said, "Son, I've been real proud. You brought your grades up and I've observed that you have been studying your Bible, but I'm real disappointed you haven't had your hair cut.

The lad paused a moment then said, "You know, Dad, I've been thinking about that, and I've noticed in my studies of the Bible that Samson had long hair, John the Baptist had long hair, Moses had long hair and there's even a strong argument that Jesus had long hair.

To this his father replied, "Did you also notice they all walked everywhere they went?"

The Mule

An old Alabama farmer had a wife who nagged him unmercifully. From morning
till night (and sometimes later), she was always complaining about something. The only time he got any relief was when he was out plowing with his old mule. He tried to plow a lot.

One day, when he was out plowing, his wife brought him lunch in the field. He drove the old mule into the shade, sat down on a stump, and began to eat his lunch. Immediately, his wife began haranguing him again. Complain, nag, nag; it just went on and on.

All of a sudden, the old mule lashed out with both hind feet, caught her smack in the back of the head and killed her dead on the spot.

At the funeral several days later, the minister noticed something rather odd. When a woman mourner would approach the old farmer, he would listen for a minute, then nod his head in agreement; but when a man mourner approached him, he would listen for a minute, then shake his head in disagreement. This was so consistent, the minister decided to ask the old farmer about it.

So after the funeral, the minister spoke to the old farmer, and asked him why he nodded his head and agreed with the women, but always shook his head and disagreed with all the men.

The old farmer said: "Well, the women would come up and say something about how nice my wife looked, or how pretty her dress was, so I'd nod my head in agreement."

"And what about the men?" the minister asked. They wanted to know if the mule was for sale."

G - Man

A Department of Agriculture representative stopped at a farm and said to the old farmer, "I'm here to inspect your farm."

The old farmer said, "You'd better not go out in that field."

The Ag representative said in a "demanding tone, "I have the authority of the U. S. Government behind me. See this card, I am allowed to go wherever I wish on agricultural land."

So the old farmer went about his chores. In a few minutes, he heard loud screams and saw the Department of Agriculture rep running for his life, headed for the fence. Close behind, and gaining with every step, was the farmer's prize bull, nostrils flaring, madder than a full nest of hornets.

The old farmer cupped his hands to his mouth and yelled out, "Show Him Your Card! Show Him Your Card!"

Editors Note – Please accept my apologies on recent lapses in publication – our office has suffered numerous and ongoing computer problems which has made it extremely difficult to maintain the normal bi-weekly publication schedule. Some of this is related to dated equipment – most of our computers and software are 7 years old or more and in this era of planned obsolesce that is ancient.

These problems have also caused names, addresses and email addresses to disappear from my distribution list so if you or someone you know of someone who has not received or is not receiving the hotline – please let me know.

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

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

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