



UNIVERSITY OF
FLORIDA

E X T E N S I O N

Institute of Food and Agricultural Sciences

Hendry County Extension

PO Box 68 LaBelle, Florida 33975-0068

Phone (863) 674-4092

SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE

March 30, 2009

Warm windy weather has prevailed for much of the past few weeks. High winds whipped vegetable plants causing some damage, while high winds and warmer temperatures combined with dry conditions in many areas have increased evapotranspiration rates and need for irrigation. Day time highs have been mostly in the 80's with nightly lows mostly in the high 50's to low 60's.

Some East Coast areas received significant precipitation for the period with many coastal locations in Palm Beach and Broward counties reporting over 4 inches for the period with some crop loss/damage reported. Other East Coast locations also received significant amounts with Homestead and Fort Pierce reporting around 2 inches. SW Florida remains very dry with growers reporting from 0.10 to 0.50 inches depending on the exact location. Some growers are experiencing some salt issues as the drought continues.

FAWN Weather Summary

Date	Air Temp °F		Rainfall (Inches)	Ave Relative Humidity (Percent)	ET (Inches/Day) (Average)
	Min	Max			
Balm					
3/6 – 3/30/09	45.23	88.59	1.04	71	0.12
Belle Glade					
3/6 – 3/30/09	51.01	86.85	0.81	77	0.12
Clewiston					
3/6 – 3/30/09	49.87	87.57	0.31	70	0.12
Ft Lauderdale					
3/6 – 3/30/09	57.22	87.73	4.83	70	0.12
Fort Pierce					
3/6 – 3/30/09	48.38	87.48	1.89	75	0.13
Homestead					
3/6 – 3/30/09	51.91	86.88	2.18	76	0.12
Immokalee					
3/6 – 3/30/09	45.91	91.69	0.13	73	0.12

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Crops coming to market include beans, cabbage, cantaloupe, celery, eggplant, endive, lettuce, peppers, squash, strawberries, sweet corn and tomatoes. Volumes have been light due to cold weather earlier in the season and quality of some items has suffered.

The short-term forecast from the National Weather Service in Miami indicates that the weak front that moved through over the weekend will move back north towards south Florida bringing some low level warm air advection and isentropic lift bringing atmospheric moisture back just above 1.5 inches by Tuesday afternoon. This will favor the development of showers developing over the Florida Straits and Florida Bay by late this evening and moving north into South Florida mainly after midnight tonight.

Instability associated with the returning front will likely lead to additional shower and some thunderstorm development on Tuesday. The returning front will move back north of the region by Tuesday night. Meanwhile several embedded shortwave troughs becomes established across much of the remainder of the continental US, the strength and timing of these disturbances rotating through the SE States...along with the strength of the ridge to our south will determine the weather across South Florida from Wednesday –Saturday. Late in the week this disturbed weather could bring a front down into South Florida – the exact location of the front is important as it could mean the difference between dry/warm/sunny weather and daily chances for thunderstorms in the Thursday – Saturday timeframe. 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, whitefly numbers are whitefly numbers really beginning to spike up as growers beginning to quit spraying older fields. Nymphs are building mostly in some older eggplant and tomato crops, but also some pepper. Scouts report that whitefly horrible in cucurbits in some places. As whitefly numbers increase watermelon growers need to be particularly aggressive to prevent possible issues with vine decline.

Respondents around Palm Beach report that whiteflies are moving around and are present in most places with some hotspots with higher counts being reported.

In the Manatee Ruskin area reports indicate that whiteflies are mostly low and are not a big issue at this time.

Respondents in Homestead indicate that whitefly populations are high in tomatoes and squash.

UF/IFAS Best Management Recommendations for Whiteflies

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

- Disrupt the virus-whitefly cycle in winter by creating a break in time and/or space between fall and spring crops, especially tomato.
- Destroy the crop quickly and thoroughly, killing whiteflies and preventing re-growth.
- Promptly and efficiently destroy all vegetable crops within 5 days of final harvest to decrease whitefly numbers and sources of plant begomoviruses like TYLCV.
- Use a contact desiccant (“burn down”) herbicide in conjunction with a heavy application of oil (not less than 3 % emulsion) and a non-ionic adjuvant to destroy crop plants and to kill whiteflies quickly.

- Time burn down sprays to avoid crop destruction during windy periods, especially when prevailing winds are blowing whiteflies toward adjacent plantings.
- Destroy crops block by block as harvest is completed rather than waiting and destroying the entire field at one time.

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

- Plant whitefly and virus-free transplants.
- Do not plant new crops near or adjacent to old, infested crops.
- Use determinant varieties of grape tomatoes to avoid extended crop season.
- Use TYLCV resistant tomato cultivars where possible and appropriate, especially during historically critical periods of virus pressure. Whitefly control must continue even with use of TYLCV resistant cultivars because these cultivars can carry the virus.
- Use ultraviolet light reflective (aluminum) mulch on plantings that growers find are historically most commonly infested with whiteflies and infected with TYLCV.
- Apply an effective insecticide to kill whitefly adults prior to cultural manipulations such as pruning, tying, etc.
- Rogue tomato plants with symptoms of TYLCV at least until second tie. Plants should be treated for whitefly adults prior to roguing and, if nymphs are present, should be removed from the field, preferably in plastic bags, and disposed of as far from production fields as possible.
- Manage weeds within crops to minimize interference with spraying and to eliminate alternative whitefly and virus host plants.
- Dispose of cull tomatoes as far from production fields as possible. If deposited in pastures, fruit should be spread instead of dumped in a large pile to encourage consumption by cattle. The fields should then be monitored for germination of tomato seedlings, which should be controlled by mowing or with herbicides if present.
- Destroy old crops within 5 days after harvest, destroy whitefly infested abandoned crops, and control volunteer plants with a desiccant herbicide and oil.

C. Insecticidal Control Practices.

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

- Foliar applications, if used instead of or in addition to soil drenches at transplanting, should be restricted to the first 6 weeks after transplanting. Do not exceed the maximum active ingredient per season according to the label.
- Follow scouting recommendations when using a foliar neonicotinoid insecticide program. Rotate to non-neonicotinoid insecticide classes after the first 6 weeks and do not use any neonicotinoid class insecticides for the remaining cropping period.

Aphids

Growers and scouts from around Palm Beach indicate that aphids are moving around and are widely present eggplant, pepper, tomato, okra, squash and cucumbers. Colony formation is occurring in some locations.

Around SW Florida report aphids seem to be everywhere but are not establishing colonies very often where growers are taking preventative measures.

In the Manatee-Ruskin area, low to very low but consistent aphid populations are present on a wide variety of crops. Some colony formation has been noted in peppers.

In the Glades, aphids are on the move. Last week saw a big jump in green peach, turnip, corn leaf and cow pea aphids moving into vegetable fields.

Leafminers

Growers and scouts around Southwest Florida leafminer indicate that leafminer pressure remains very low. A few hotspots have been noted including some fields in Devils Garden.

Reports from Homestead indicate that leaf miner is a serious problem on a range of vegetables including squash, beans, tomatoes, and basil. Some growers claim that more insecticides are needed for the use on snap beans for control of leaf miner.

Respondents around Palm Beach and the East Coast indicate that leafminer pressure is mostly low but some growers are still spraying squash, tomato and eggplant.

Reports from Manatee County indicate leafminers remain the big pest in tomato. Pressure remains steady and numbers are getting high in some young tomatoes.

Thrips

Growers and scouts in Palm Beach County report big increases in thrips numbers in pepper and indicate that they are horrible to moderate depending on the location. Palm Beach County Vegetable Extension Agent David Sui notes that numbers of western flower thrips in pepper blossoms was 0.1- 0.3 per 10 pepper flowers back in Jan. and 0 - 0.4 in Feb. but recently has reached 8.4 per 10 flowers. He notes that this has been a relatively successful pepper season so far in terms of growers accepting and practicing UF/IFAS recommendations for monitoring and using soft chemicals when necessary to conserve beneficials.

Scouts note that where numbers are high they are finding both mature and immature thrips on fruit and some damage is occurring in pepper. They also note the appearance and movement of tomato spotted wilt virus in some pepper fields.

In Southwest Florida, mostly flower thrips are around in mostly low to moderate numbers with up to 10 thrips per bloom in some pepper fields.

Around Plant City, scouts indicate that thrips numbers are up and are present in everything.

Around Manatee County, thrips remain relatively light.

Around the Glades, thrips are moving into snap beans.

Worms

Fall armyworm counts are increasing in corn and other crops in the Glades but no where near the numbers seen last fall. Diamondback moths are making are moving in large numbers off wild radish along canal banks into the various brassica crops. Silk fly pressure in the surviving sweet corn fields following the frosts has been relatively light to date.

Reports from Palm Beach indicate that worm pressure is remains mostly low with some loopers being reported in tomato and some cutworm activity causing problems in isolated locations.

Around Southwest Florida, worms are still around and growers and scouts report finding many looper eggs and noting that beet and southern armyworm are still active. Reports indicate that mainly melon worms have been active in cucurbits and very low pinworms are present in tomato and eggplant in a few locations.

Growers around Manatee County are starting to see a few worms, mainly beet and southern armyworms and are finding egg masses and young hatchings.

Spider mites

Growers in scouts across south Florida report that spider mites are showing up all over but mostly at low levels.

Respondents in Palm Beach note that spider mite pressure is increasing in cucurbits, eggplant, tomato and strawberries.

Around Plant City spider mites are widely present in strawberries that are stilling going. Spider mites are also present in double cropped watermelon.

Broad mites

Reports from East Coast growers indicate that broad mites are starting to show up in pepper again.

Around Immokalee, broadmites are still present in some pepper and eggplant.

Scouts in Manatee County also report finding broad mites in peppers recently.

Pepper weevils

Around Southwest Florida, scouts report pepper weevils are moving around and remain mostly low, but note that some old pepper fields are building up higher populations.

Respondents in the Palm Beach area report that pepper weevil numbers are increasing and are present in a number of older plantings and note they are now showing up in younger plantings as well.

Stinkbug

Stinkbugs are present and causing scattered problems in some locations around South Florida.

Diseases

Powdery Mildew

Growers and scouts around Immokalee report that powdery mildew pressure is very high in squash and starting in cantaloupe. They are also reporting low levels of powdery mildew on tomato and peppers and in some watermelons.

Respondents in Palm Beach report that powdery mildew is bad on squash and has reached high levels in a lot of pepper. It is also present and increasing in a number of crops including eggplant, cucumber, and strawberries as well as mint and dill. It is present but mostly low on tomato.

Around Homestead, powdery mildew is a problem on squash.

Low levels of powdery mildew have been reported on melons around Manatee County.

Powdery mildew of watermelon is a fairly recent phenomenon in Florida possibly because of the combination of dry spring seasons with the conversion of much of the watermelon acreage to drip irrigation which maintains dry foliage.

Powdery mildew of watermelon appears as yellow blotches on the oldest leaves first. Later these mosaic-like blotches become bronzed and turn dark brown or purple and may be mistaken for wind burn. The white masses of sporulation that are commonly seen with other powdery mildews are not seen commonly with the powdery mildew of watermelon. With magnification, it may be possible to observe a limited amount of the powdery mildew fungus in the yellowed areas.

Control of powdery mildew of watermelon can be achieved with chlorothalonil, the high rates of mancozeb, the strobilurin fungicides such as Amistar, Cabrio, Flint and others, and sterol inhibitors like Nova. New materials like Acrobat, Curzate Pristine and Quintec have also shown good efficacy.

Note: plant back on rotational crops for crops not on the Quintec label is 12 months.

Procure 480SC fungicide (FRAC Group 3) can also be used on cucurbit crops for powdery mildew control at the 8 fl oz/A rate, but should be rotated with products like Quintec, Pristine, etc. to prevent resistance build-up. Procure 480SC has the active ingredient, triflumizole, a DMI fungicide, which should not be rotated with Nova/Rally in subsequent applications.

Resistance management involving the rotation of fungicides of differing modes of action is especially important in combating powdery mildew as this disease has historically proven quite adept at developing resistance to fungicides with a specific mode of action such as benomyl, triadimefon and the strobilurins. Growers should be sure to follow labeled instructions regarding the number of applications per season and rotate between different fungicide classes.

Sulfur, potassium bicarbonate and copper products may provide some control for organic producers. Micronized sulfur can be quite effective but may burn foliage under the high temperatures experienced in the late spring in south Florida

Powdery mildew of pepper is caused by *Leveillula taurica*, which is a very different powdery mildew fungus from that causing powdery mildew on cucurbits. The fungus which affects cucurbits *Podosphaera xanthii* (*Sphaerotheca fulginea*) or, occasionally, *Erysiphe cichoracearum*, grows on both surfaces of a leaf and forms haustoria within some epidermal cells to absorb nutrients and produces spores on both surfaces.

In contrast, *Leveillula taurica* grows only within a leaf until it produces spores, a growth habit which is similar to *Alternaria* and most other foliar plant pathogenic fungi. Additionally, *Leveillula taurica* only produces spores on the underside of leaves. *Leveillula taurica* is a species complex that infects over 1000 plant species in 74 families, including tomato and eggplant as well as pepper.

Detecting powdery mildew on pepper can be difficult. The white powdery growth characteristic of powdery mildew diseases occurs only on the underside of leaves and it will turn brown rather than remaining white. Diffuse yellow spotting often develops on the upper surface. Affected leaves tend to drop off the plant, as occurs with bacterial leaf spot.

Downy Mildew

Around Palm Beach County, downy mildew is severe on cucumbers and is reaching high levels in many squash fields.

Growers and scouts around Southwest Florida report that downy mildew is still active in cucumbers and hitting them hard in a number of places. It is also present at lower levels in some squash.

Respondents from Homestead report some problems with down mildew on squash but note incidence is low to moderate.

Across South Florida, downy mildew is widely present on basil.

Since its appearance in South Florida downy mildew has emerged as an important disease on basil and growers should be on a very strict, preventative spray program if they want to control it. The phosphites are effective when applied early, and these should be alternated in a program with azoxystrobin (Amistar or Quadris) to provide the desired control. Spray intervals should be no more than 7-days, with 2 times per week preferable. Once plants are infected, it is very difficult to control. Research is being conducted on additional chemistries with IR-4 and soil applications for early disease control are also being researched.

Lettuce Downy Mildew

Dr Rick Raid, Pathologist at EREC reports that lettuce downy mildew, caused by *Bremia lactucae*, was observed for the first time this season last week in the Glades. Its appearance was most likely elicited by the several days of continuous leaf moisture that came with last week's rain. The outbreak was spotted in a lettuce fungicide experiment that was targeting *Sclerotinia* and it occurred naturally.

He believes the lateness of this outbreak and the fact that it has yet to be seen in a commercial production field speaks highly of the effectiveness of preventative disease management for this disease. Preventative management has largely involved the use of phosphonic fungicides in a rotational or tank-mix program with an EBDC fungicide, such as maneb. All lettuce growers should be on high alert for downy mildew and could consider using some of the highly effective alternative downy mildew fungicides such as Revus, Forum, Reason, Previcur, or Presidio. All of these are of unrelated chemistries to the phosphonics or EBDCs and each have a relatively short PHI. These compounds have also demonstrated high efficacy when used in a program with the phosphonics or EBDCs. Check labels for possible plant-back restrictions. Growers or consultants can contact Dr. Raid (561-993-1564) if they have any questions in this regard.

Downy mildew of cruciferous crops

Downy mildew has been prevalent on cabbage, broccoli, and related cruciferous crops around the Glades and elsewhere this spring. All fungicides discussed in the note describing the lettuce downy mildew outbreak are equally effective against this species of downy mildew.

Botrytis

Respondents around South Florida continue to report problems with botrytis kicking off flowers, bud in peppers and small fruit. Gray mold is a fairly common problem in tomato and can also attack beans, eggplants, pepper, and potato as well as many ornamentals.

Late Blight

Around Manatee County, scouts report few problems with late blight. Reports indicate that much came in on infected transplants which were rouged out limiting spread.

Around Immokalee growers report that late blight is still flaring up from time to time in different places around the area.

Around Palm Beach, growers and scouts report that late blight is continuing to move around in fields where it had been established earlier.

Reports from Homestead indicate late blight is present on tomato in a number of places.

Fusarium Crown Rot

Around Immokalee, fusarium crown rot continues to melt down plants in some older tomato fields, where water was pumped up for cold protection

Reports from Palm Beach indicate that fusarium is bad in older tomato, especially Roma tomatoes in a number of places and is actually taking out some fields.

In Manatee County growers and scouts report that fusarium crown rot is jumping in behind the salt damage which occurred in fields where water tables were raised for freeze protection.

TYLCV

On the East Coast, tomato yellow leaf curl virus is present in a number of scattered locations but is mostly low.

Reports from Homestead indicate that TYLCV is present on tomatoes but incidence remains low.

Around Southwest Florida TYLCV incidence remains very low but scouts are seeing some increases, mostly in the 2-5% range with some hotspots going much higher.

Bacterial leaf spot

Respondents on the East Coast report bacterial spot is still moving around in tomato and pepper.

Strawberry producers around Hillsborough County are suffering thru some of the worst bacteria they have seen following all the watering during freezes.

Around Southwest Florida, bacterial spot is flaring in some spring pepper and tomato fields in a few locations.

Reports from Manatee County indicate that growers are just starting to see little bacteria in tomato.

Sclerotinia

Reports from around south Florida indicate that sclerotinia seems to have slowed in most places on tomato and pepper with not much new infection being reported.

Topsin M has given good results on sclerotinia. EPA has extended the expiration date of the Section 18 use of Topsin M WSB on fruiting vegetables in Florida from December 31, 2008 to April 24, 2009. Label must be in applicators possession at the time of application. Call if you need a copy of the Section 18 label.

Target Spot

Target spot is mostly low around South Florida but is flaring up in scattered locations.

Early Blight

A few reports of Alternaria on tomato are starting to come in from several locations around South Florida. Incidence is increasing in a number of east Coast locations which received recent heavy rains and some reports of black mold on fruit have been received.

Gummy Stem Blight

Around Southwest Florida, gummy stem is around on watermelon but is mostly low although a few new reports are coming in.

In Florida, gummy stem blight is a serious disease that occurs annually on watermelons. Infection and symptoms may occur on all plant parts and at any stage of development from seedlings to maturity.

Symptoms appear as light to dark brown circular spots on leaves or as brown to black, lesions on stems. Wilting, followed by death of young plants may occur. Stem lesions enlarge and slowly girdle the main stem resulting in a red-brown-black canker that cracks and may exude a red to amber gummy substance. Vine wilting is usually a late symptom. Use of a hand lens will reveal small, clear white (when young) to black (when old), pycnidia embedded in older diseased tissue.

Because other plant disorders can cause exudation of a gummy substance, “gummy-ness” should not be relied upon for diagnosis of gummy stem blight. Anthracnose and inadequate liming can both cause stem lesions and gumming.

Gummy stem blight typically progresses from the central stem of the plant to growing tips. Leaf spots are variable in shape, red-brown in color and initial infections are generally seen on leaf margins and veinal areas.

The fungus (*Didymella bryoniae*) produces two spore stages, a sexually produced spore (ascospore) and an asexually produced spore (pycnidiospore). The ascospore is windborne and serves as a primary source of inoculum. The pycnidiospore functions in secondary spread of the disease. Pycnidiospores are released in a gummy substance that makes them adaptable for spread by splashing water.

Growers often comment on this disease occurring “overnight.” What they are actually seeing are the results of secondary spread, which is more difficult to control than primary spread simply because of increased spore numbers with increased diseased tissue.

Temperatures and moisture conditions are often ideal for development during watermelon season in Florida. Gummy stem blight is most severe in wet years since moisture is necessary for spore germination. After a spore germinates on a susceptible host, the fungus penetrates the plant tissue and symptoms can appear in 3- 5 days – **Thanks to Dr Tony Keinath for this correction** – he notes that by 12 days growers could be seeing secondary symptoms (i.e., the second disease cycle or if later in the season, the next disease cycle).

Gummy stem blight can be successfully managed using a combination of control strategies. Control of primary sources of inoculum is important. Growers should purchase clean seed and avoid transplants that have gummy stem blight or other diseases.

Multiple applications of fungicides are necessary to control gummy stem blight. It is important to begin a fungicide program prior to the first sign of gummy stem blight. In south Florida, the spray program should be initiated soon after emergence or transplanting. In other areas of the state, fungicide spray programs can be initiated when the vines begin to “run.” When vines are small, band applications of fungicide over the crown area are effective and help reduce application costs.

In recent years, strains resistant to the strobilurin fungicides have been detected throughout the Southeast, so it is important that growers practice resistance management and avoid repeated applications of these materials. New materials such as Pristine (BASF) a mixture of boscalid and pyraclostrobin has shown good efficacy against resistant strains of the disease.

Mosaic

Mosaic virus is present on squash around South Florida.

News You Can Use

Florida Organic Growers-IFAS April Workshops to Provide Tools for Growers to Transition to Organic

GAINESVILLE, Fla. – Florida Organic Growers (FOG) will team up with the University of Florida IFAS to present two Organic Transition workshops in April: Wednesday, April 22 at the IFAS Extension facility in Homestead and Thursday, April 23 at the UF/IFAS Southwest Florida Research & Education Center in Immokalee. Commercial growers who are interested in transitioning to organic production will learn about organic farming practices, regulations, and organic farm plan development. The program includes an update on financial incentives available to transitioning producers included in the 2008 Farm Bill.

The workshops are part of FOG’s Organic Transition & Pesticide Reduction initiative that offers farmers free technical assistance to transition to organic production by pairing growers with an experienced organic production crop advisor. The advisor, FOG staff, and allied professionals offer support, technical know-how and assurance growers may need or desire to successfully make the transition.

Growers who transition to organic production gain access to the organic foods marketplace, which, in the U.S., has grown from \$1 billion in sales in 1990 to an estimated \$23 billion in 2008.

“The organic marketplace continues to expand and Florida growers may want to seriously consider the market opportunities,” FOG Executive Director Marty Mesh said.

In addition to assisting transitional growers, FOG's program is open to Florida fruit, vegetable, and row-crop producers who are motivated to reduce their use of pesticides. Growers who participate with the goal of reducing pesticide use and abandoning high-risk pesticides can work with a Crop Advisor to learn and adopt sustainable farming practices and sound Integrated Pest Management.

To register for the April 22 workshop in Homestead, please contact Teresa Olczyk at 305-248-3311 or twol@ufl.edu.

To register for the April 23 workshop in Immokalee, please contact Gene McAvoy at 863-674-4092 or gmcavoy@ufl.edu.

Registration is \$15 and includes lunch, refreshments, and a resource binder.

Growers who would like to work with a Crop Advisor through the Organic Transition & Pesticide Reduction program should contact Matt Vargas at (352) 377-6345 or matt@foginfo.org. More information, including the application to participate in the program, can be found at www.foginfo.org/epa

Pesticide Use and Use Patterns Changing in US

Efforts by an impressive array of federal and state agencies, farmer alliances, chemical companies, and nonprofit advocacy groups are dramatically shifting the way pesticides are made and used. As a result, pesticide use in the U.S. has dropped.

Data from the EPA show that conventional pesticide use, which includes agricultural and home and garden applications, peaked at 1.46 billion pounds in 1979 and fell to 1.23 billion pounds in 2001, the last year for which comprehensive data are available. Since then, pesticide use in the U.S. appears to have remained flat, according to limited government data and market research reports.

The drop in pesticide use is due to a host of factors, including better pesticides that not only are more selective and applied at lower rates, but also have lower inherent toxicity and thus a lower impact on human health and the environment.

Another factor is the set of farming strategies called integrated pest management (IPM), which relies on the life cycles of pests and crops to control pests economically and withholds use of pesticides until potential damage reaches a certain threshold. (Chemical and Engineering News, 2/16/09).

I-9 Form Changes

Changes to the I-9 form (employment eligibility verification) rule will now take effect April 3. These changes represent another attempt by the Department of Homeland Security to intensify the regulations which apply to employers and prospective employees. Information about the changes as well as a copy of the Employer's Handbook are available online at: <http://www.uscis.gov/>.

State Agency Hires 16 Investigators for Major Farm Areas

The Florida Department of Business and Professional Regulation (DBPR) has placed 16 investigators throughout the state to inspect conditions among farm labor contractor employees. For the protection of Florida's farm workers and the agriculture industry, these inspections include field sanitation, payment of wages, and passenger vehicle safety.

The investigators have been placed in agriculturally significant areas of the state to ensure compliance with all applicable state and federal laws. Investigators are assigned to the following areas: Homestead, Ft. Pierce, Ft.

Myers, Belle Glade/Clewiston, Immokalee/Labelle, Sebring Wauchula, Tampa, Orlando, Gainesville, and Quincy.

A Florida farm Labor Contractor Study Guide is posted at the DBPR's Internet site at:
http://www.myflorida.com/dbpr/reg/documents/florida_farm_labor_contractor_english.pdf.

Reimbursements for Organic Certification Costs

Florida Certified Organic Growers and Consumers, Inc. (FOG) is accepting applications from certified organic growers and handlers in Florida for reimbursement of up to 75 percent of certification costs, or a maximum of \$750. Reimbursement for certification costs paid between Oct. 1, 2008, and Sept. 30, 2009, will be issued on a first-come, first-served basis until funds are depleted. The deadline for submitting applications is Oct. 15, 2009.

To qualify for the organic certification cost share reimbursement, an operator must have certified organic farm or production facilities in Florida, must hold an organic certificate issued by a USDA accredited certification agency issued between Oct. 1, 2008, and Sept. 30, 2009, and must not have previously received cost share reimbursement for the same period.

For additional information, including the cost share program application, visit www.foginfo.org, call 352.377.6345 or email fog@foginfo.org <<mailto:matt@foginfo.org>>.

Horticulture BMP's for Water Conservation and Treatment Workshop

Are you interested in water conservation, managing diseases and algae in water, or using recycled or reclaimed water in your nursery or field crops? The University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) and The Water Education Alliance for Horticulture will host a program focusing on onsite recycling and treatment of irrigation water on April 29 at the UF/IFAS Gulf Coast Research and Education Center in Wimauma from 10 AM to 4 PM.

The goal is to encourage and enable growers to recycle irrigation water and/or adopt BMPs for water conservation, which will reduce water demand. Greenhouse, nursery, foliage, strawberry and vegetable growers will learn about diagnosing and treating diseases, algae, and salt problems in recycled and recycled/reclaimed water. This regional workshop will feature presentations from industry and university experts from throughout the U.S. Best Management Practices (BMPs) to conserve irrigation water will also be discussed.

There is an optional tour of the Riverview Flower Farm earlier that morning, from 10- 11:30 a.m., at 5363 Bonita Drive, Wimauma, which will highlight new research and practical aspects of water conservation.

To register for the free tour and workshop, visit <http://hillsborough.extension.ufl.edu/Ag/AgCalendar.html#April> The registration deadline is April 22. There is a \$15 per person for late registrations. Pesticide CEUs have been applied for the morning and afternoon sessions.

Pesticide Potpourri

- FDACS has approved the use Rimon 0.83EC insecticide (United Phosphorus) on tomatoes in Florida as of March 11, 2009. Rimon 0.83EC insecticide has broad spectrum worm activity as well as activity on immature whiteflies, thrips, stink bug and plant bug species. PHI is 1 day and the use rate is 9 – 12 fl oz/A with a maximum of 36 fl oz/A per season. The mode of action for Rimon 0.83EC is IRAC Group 15 (benzoylureas). Rimon is an IGR with activity as a chitin inhibitor on certain insects.

- On February 11, the Florida Department of Agriculture and Consumer Services (FDACS) approved the revised labeling of EPA SLN FL-070007, (Eptam® herbicide to control weeds under plastic mulched tomato) to utilize higher density plastics for using fumigants more efficiently. (FDACS letter of 2/11/09).
- The FDACS has again submitted paperwork to EPA to retain the use of thiophanate (Topsin®) for control of white mold in fruiting vegetables. The current section 18 specific exemption will expire on April 24, 2009. (FDACS letter of 2/23/09).
- IR-4 has been successful in revising the fruiting vegetable crop group. The revision will add okra to this group as well as 14 other orphan crops such as pepino, roselle, tree tomato and groundcherry. (IR-4 January 2009 newsletter).
- FFVA has announced that methyl bromide will be in extremely short supply by the fall fumigation period. Growers should be working hard on finding alternatives in the next months. (Florida Grower, February, 2009).
- The manufacturer of the fungicide maneb (United Phosphorous) has voluntarily canceled the registration of the material and existing stocks may be gone before the end of this crop year. While there have been registration materials submitted mancozeb use in some of the crops in which maneb was used, these will probably not be acted on until mid-Summer. Consequently, mancozeb for a certain crop may not be available for 2009.
- However, the EPA has recently approved several new vegetable crop use sites for chlorothalonil (Bravo® 720), which may cover the loss of maneb to some extent. The EPA also appeared amenable to a Crises Exemption for bacterial spot of pepper under Section 18 (to be treated with mancozeb), which is currently being prepared by a group of stakeholders. (Summary of Maneb Cancellation Teleconference #1).



Opportunity

Florida Farm Manager/Research Assistant

Supervise and manage vegetable research trials for a U.S. vegetable breeding company primarily in the South Florida area but also be able to establish grower trials in the SE US. Duties would include planting, pollination, harvesting, trial layout, note taking and organization of all trials. Position is full time with a full-benefit package. Minimum qualifications are 2 - 4 years farming/research experience and 2 yrs college with a willingness to travel. Spanish-language ability, computer skills and a research aptitude are important. Send resume and reference list by email to: maria.villagomez@magnumseeds.com

Farm Land for Lease

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

Agriculture land available for a long term lease of 8-10 years. This 320 acre property is located in Martin County on Hwy 609 and 3 miles north of Hwy 710 (The Beeline Hwy). It is within the Troop Indiantown Water

District (TIWD) which provides for irrigation water and free-flowing drainage. This land is free of wetlands and cleared for farming. Contact Miguel Perales: 561-718-4635.

Quality agricultural land for lease or possible joint venture production of vegetable crops, bio-fuels etc. is available in Martin County. Easy access to SR 710 and SR 76, under drip and/or overhead irrigation, Call Mitch Hutchcraft at 239-405-1694

Up Coming Meetings

Hillsborough County

April 29, 2009

Horticulture BMP's for Water Conservation and Treatment

UF/IFAS GCREC
Wimauma, Florida

To register for the free tour and workshop, visit

<http://hillsborough.extension.ufl.edu/Ag/AgOrnProd/AgCalendar.html#April>

The registration deadline is April 22. There is a \$15 per person for late registrations.

May 1, 2009

Developing a Food Safety Program for Vegetable and Berry Growers and Packers

UF/IFAS GCREC

Registration required- \$20, contact Lacey Marsden at 813-744-5519 ext 128 or [lacee@ufl.edu](mailto:lancee@ufl.edu)

Miami Dade County

April 22, 2009

Organic Transition & Pesticide Reduction Workshop

Miami-Dade County Extension
Homestead, FL

Cost is \$15 - contact 305-248-3311 for more information or to register.

Southwest Florida

April 1, 2009

Jalapeno Pepper Variety Trial Field Day - 10 AM - Noon

C& B Farms
CR 835
Clewiston, Florida

Contact 863-674-4092

April 7 – 8, 2009

Spanish Pesticide License Training

Core – April 7

Private- April 8

Hendry County Extension Office
LaBelle, Florida

Contact 863-674-4092

Note tests are administered in English

April 23, 2009

Organic Transition & Pesticide Reduction Workshop

UF/IFAS Southwest Florida Research & Education Center
SR 29N
Immokalee, FL

Cost is \$15 - contact 863-674-4092 for more information or to register.

April 30, 2009

CORE/Private Pesticide License Training

Hendry County Extension Office
LaBelle, Florida

Contact 863-674-4092

Note tests are administered in English

Other Meetings

June 7-9, 2009

Florida State Horticultural Society Meeting

Jacksonville, Florida

For more information contact Mary Lamberts at 305-248-3311 x234, email to lamberts@ufl.edu or go to <http://www.fshs.org/meetings.htm>

Websites

UF/IFAS Hendry County Extension Website – have a question or find out more about our programs, want to look at a past issue of the hotline, enroll or child in 4-H or contact me or one of our agents, go to <http://hendry.ifas.ufl.edu/index.shtml>

Watermelon Diseases – UF/IFAS site has color photos of many common watermelon diseases, go to <http://watermelons.ifas.ufl.edu/diseases/diseases.htm>

Quotable Quotes

A vote is like a rifle; its usefulness depends upon the character of the user. - Theodore Roosevelt

You cannot build character and courage by taking away a man's initiative and independence. - Abraham Lincoln

There is no such thing as a 'self-made' man. We are made up of thousands of others. Everyone who has ever done a kind deed for us, or spoken one word of encouragement to us, has entered into the make-up of our character and of our thoughts, as well as our success. - George Matthew Adams

The art of being happy lies in the power of extracting happiness from common things. - Henry Ward Beecher

One of the most tragic things I know about human nature is that all of us tend to put off living. We are all dreaming of some magical rose garden over the horizon instead of enjoying the roses that are blooming outside our windows today. – Dale Carnegie

Develop success from failures. Discouragement and failure are two of the surest stepping stones to success. – Dale Carnegie

Life's tough.....It's even tougher if you're stupid. - John Wayne

On the Lighter Side

Medical Alert

The Center for Disease Control has issued a medical alert about a highly contagious, potentially dangerous virus that is transmitted orally, by hand, and even electronically.

This virus is called Weekly Overload Recreational Killer (WORK).

If you receive WORK from your boss, any of your colleagues or anyone else via any means whatsoever - DO NOT TOUCH IT!!! This virus will wipe out your private life entirely. If you should come into contact with WORK you should immediately leave the premises.

Take two good friends to the nearest liquor store and purchase one or both of the antidotes - Work Isolating Neutralizer Extract (WINE) and Bothersome Employer Elimination Rebooter (BEER). Take the antidote repeatedly until WORK has been completely eliminated from your system.

You should immediately forward this medical alert to five friends. If you do not have five friends, you have already been infected and WORK is, sadly, controlling your life.

Message of the Week

Life is short,
Break the rules,
Forgive quickly,
Kiss slowly,
Love truly,
Laugh uncontrollably,
And never regret anything that made you smile.

The Silver Screw

Once upon a time, a young lad was born without a belly button. In its place was a silver screw. All the doctors told his mother that there was nothing they could do.

Like it or not, he was stuck with it . . . He was screwed.

All the years of growing up were real tough on him, as all who saw the screw made fun of him. He avoided leaving his house.... and thus, never made any friends.

One day, a mysterious stranger saw his belly and told him of a Swami in Tibet who could get rid of the screw for him. He was thrilled. The next day, he took all of his life's savings and bought a ticket to Nepal. After several days of climbing up steep cliffs, he came upon a giant monastery. The swami knew exactly why he had come. The screw guy was told to sleep in the highest tower of the monastery and the following day when he awoke, the screw would have been removed. The man immediately went to the room and fell asleep.

During the night while he slept, a purple fog floated in an open window. In the mist floated a solid silver screwdriver. In just moments, the screwdriver removed the screw and disappeared out the window.

The next morning when the man awoke, he saw the silver screw lying on the pillow next to him. Reaching down, he felt his navel, and there was no screw there! Jubilant, he leaped out of bed . . . and his butt fell off.

The moral to this is:

Don't screw around with things you don't understand – You could lose your ass.

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 with in minutes of my completing it and help conserve dwindling resources at the same time.

Contributors include: Joel Allingham/AgriCare, Inc, Jeff Becthel/Yoder Brothers, Bruce Corbitt/West Coast Tomato Growers, Dr. Phyllis Gilreath/Manatee County Extension, Michael Hare/Drip Tape Solutions, Fred Heald/Farmers Supply, Sarah Hornsby/AgCropCon, Cecil Howell/H & R Farms, Loren Horsman/Glades Crop Care, Bruce Johnson/General Crop Management, Dr. Mary Lamberts/Miami-Dade County Extension, Leon Lucas/Glades Crop Care, Mark Mossler/UF/IFAS Pesticide Information Office, Gene McAvoy/Hendry County Extension, Alice McGhee/Thomas Produce, Dr. Gregg Nuessly/EREC Chuck Obern/C&B Farm, Dr. Aaron Palmateer/TREC, Dr. Ken Pernezny/EREC, Dr. Rick Raid/ EREC, Dr Ron Rice/Palm Beach County Extension, Dr Pam Roberts/SWFREC, Dr. Nancy Roe/Farming Systems Research, Wes Roan/6 L's, Dr. Dak Seal/ TREC, Kevin Seitzinger/Gargiulo, Ken Shuler/Stephen's Produce, Crystal Snodgrass/Manatee County Extension, John Stanford/Thomas Produce, Mike Stanford/MED Farms, Dr. Phil Stansly/SWFREC, Dr David Sui/Palm Beach County Extension, Dr Gary Vallad/GCREC , Mark Verbeck/GulfCoast Ag, Alicia Whidden/Hillsborough County Extension, Dr Henry Yonce/KAC Ag Research and Dr. Shouan Zhang/TREC.

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.

Gene McAvoy
County Extension Director / Extension Agent IV
Regional Specialized Agent - Vegetables/Ornamental Horticulture

Hendry County Extension Office
PO Box 68
LaBelle, Florida 33975
Web: <http://hendry.ifas.ufl.edu/>

863-674-4092 phone
2863-673-5939 mobile - Nextel 159*114449*
863-674-4097 fax
GMcAvoy@ifas.ufl.edu

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Thomas Produce Company

Of South Florida
Grower and Shippers of Quality Vegetables
9905 Clint Moore Road
Boca Raton, Florida 33496

Robert Murray

Wedgworth's Inc

Big W Brand Fertilizer
Phone 561-996-2076 Cell 239-707-2272

Wes Mathis

Triangle Chemical Company

2821 Old State Road 8
Venus, Florida 33960
Toll Free 866-893-7848 Cell 863-673-2892

Fred Heald

Farmers Supply Inc

710 Broward Street
Immokalee, FL 34142
Phone 239-657-8254 Fax 239-657-2005

Gargiulo

Growers Shippers Importers Exporters
David Pensabene: Production Manager
Naples Operations
Phone 239-353-0300 Fax 239-353-3407

Mark Myers

Agriliance/ProSource One

Immokalee, Florida
Phone 239-657-8374 Mobile 239-253-6631
E-mail: memyers@agriliance.com

Dr. Nancy Roe

Farming Systems Research

5609 Lakeview Mews Drive
Boynton Beach, Florida 33437
Phone 561-638-2755

Ed Early

Dupont Agricultural Products

5100 South Cleveland Avenue
Fort Myers, Florida 33907
Phone 239-332-1467 Mobile 239-994-8594

Glades Crop Care, Inc.

**Leaders in Crop Health
Management**

Charlie Mellinger, Ph.D.
Phone 561-746-3740 Fax 561-746-3775

Rachel Walters

Bayer CropScience

32871 Washington Loop Road
Punta Gorda, FL 33982
Phone 941-575-5149 Cell 239-707-1198

Glen Kaufman

Paramount Seeds, Inc.

PO Box 1866
Palm City, Florida 34991
Phone 772-221-0653 Fax 772-221-0102

Farmer Mikes LLC

Mike Clevenger J.J. Black
15960 CR 858
Immokalee, FL 34142
Office 239-658-0592 Fax 239-658-0593

Special Thanks to the **generous support** of our **sponsors**; who make this publication possible.

Garry Gibson
BASF Corporation
1502 53rd Avenue
Vero Beach, Florida 32966
Office 772-778-4646 AGNET 21726
w.garry.gibson@basf.com

PREV AM
Vegetable Pest/Disease Control
Darrell Thorpe 352-483-6569
Jerry Dukes 941-524-1312

UAP – AGRILIANCE - TRIANGLE/CPS

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Sarah Markle 863-673-8699

Jack Kilgore
239-707-7677
Natural Industries Inc
info@naturalindustries.com
Actinovate® AG
Biological Fungicide

Chuck Obern
C & B Farm
CR 835
Clewiston, FL 33415
Office 863-983-8269 Fax 863-983-8030
Cell 239-250-0551

Bart Hoopingarner
UPI- formerly Cerexagri
3605 162 Ave E
Parrish, FL 34219
Cell 941-737-7444 Fax 941-776-1844
bart.hoopingarner@uniphos.com

Jay Hallaron
Chemtura Corporation

321-231-2277 cell 407-256-4667 cell
jay_hallaron@cromptoncorp.com

Matt Arnold
Crop Production Services
116 Jerome Drive
Immokalee, Florida
239-657-3168 office 239-464-5763 cell

Dr. Henry Yonce
KAC Agricultural Research
Scouting, Consulting
Research
386-736-0098 work 386-527-1124 cell
HDYONCE@msn.com

Richard Roles
Roles Marketing International
Distributors of Agrigro and Super Cal
10% Calcium
richard@rmiint.com www.rmiint.com
Cell 561-644-3511

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