May 21, 2003

Hot mostly dry weather resulting from a persistent ridge of high-pressure over the region has scorched South Florida over the past few weeks. Over the past few days, this system has weakened and the clash of the Atlantic and Gulf of Mexico sea breezes has brought thunderstorms and significant rains to some coastal and many inland areas possibly signaling the beginning of the summer rainy season. Total rainfall for the period has varied widely from under an inch in some areas to several inches in some parts of south Florida. Some thunderstorms have been accompanied by high winds and some wind damage has been reported.

Temperatures have been running several degrees above normal, with daytime highs in interior sections reaching into the mid-nineties on a daily basis. Nighttime temperatures have been ranging in the upper 60s to mid 70’s. Pan evaporation has averaged 0.20 inches per day resulting in moisture stress and afternoon wilting of crops in some places.

FAWN Weather Summary

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Note: Archived FAWN weather data beyond May 12 –13 is unavailable due to system changes being undertaken this week.

Wishing you all the best for a safe and restful summer break.

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COOPERATIVE EXTENSION WORK IN AGRICULTURE, FAMILY AND CONSUMER SCIENCES, SEA GRANT AND 4-H YOUTH, STATE OF FLORIDA, IFAS, UNIVERSITY OF FLORIDA, U.S. DEPARTMENT OF AGRICULTURE, AND BOARDS OF COUNTY COMMISSIONERS COOPERATING
Vegetables coming to market include beans, cantaloupe, cucumbers, eggplants, okra, peppers, potatoes, specialty crops, squash, sweet corn, tomatoes and watermelons. Producers are busy harvesting crops to meet Memorial Day demand. Watermelon harvest is peaking in southwest Florida and quality is mostly good with excellent sugar content due to favorable conditions coming up to maturity. Season is rapidly winding down across most of south Florida including the Manatee/Ruskin area, which has been suffering under poor prices and adverse weather conditions.

The short-term forecast from the National Weather Service in Miami calls for partly cloudy skies and scattered showers and thunderstorms through next week. A weak cool front will bring temporary relief marginally lower temperatures on Saturday and Sunday. Daytime highs will be in the upper 80’s to low 90’s and nighttime lows in the upper 60’s.

For additional information, visit the National Weather Service in Miami website at http://www.srh.noaa.gov/mia/newpage/cgi-bin/master.pl?suite=home

Insects

Growers and scouts report that at this stage of the game there seems to be a little bit of everything out there if you look hard enough.

Whiteflies

Around Southwest Florida, whiteflies are present in very high numbers in most places, with both adults and nymphs present. Irregular ripening has been noted on tomato, silverleaf in squash, and honeydew problems have been reported on pepper and melon. Some growers are reporting good results using reflective mulches to reduce the incidence of silverleaf in squash.

At the recent UF/IFAS Southwest Florida Research and Education Center Spring Vegetable Field Day, Dr Phil Stansly emphasized the importance of crop free period in controlling whitefly. Growers are urged to cleanup old fields as soon as possible and to try to incorporate the longest possible crop free period into their cropping cycle.

Respondents in the Manatee/Ruskin area report that whitefly numbers continue to increase in tomatoes of all ages with some scouts reporting counts of 100 plus per sample. Both adulticides and IGRs are being applied but the frequency and choice of products being used is being affected by the current low market price for tomato. Growers, who had been using Mpede until high temperatures caused them to stop to avoid possible phytotoxicity, have switched to insecticides including the pyrethroids, endosulfan, and Monitor. With high numbers in older plantings, growers are urged to consider spraying with oil upon crop destruction to prevent migration of SWF into younger or neighboring plantings.

Whitefly numbers are also increasing in cucurbits throughout west central Florida.

Reports from Palm Beach and Martin Counties indicate that higher than normal whitefly pressure with moderate to high whitefly counts being noted in tomato, pepper, eggplant, and squash. Heavy whitefly infestations on squash have resulted in the appearance of silverleaf symptoms on squash in some locations.

Respondents in Homestead report a high whitefly numbers. This is a challenging situation due to the diversity of crops (okra, boniatos and malanga plus some of the oriental crops) present year round and over 1000 ornamental nurseries in close proximity, which does not allow a crop free period and leads to the continual presence of whitefly in sizeable numbers.
For more information on whiteflies, be sure to check out the UF/IFAS Whitefly Knowledgebase at http://whiteflies.ifas.ufl.edu/ as well as the UF/IFAS Featured Creatures website at http://creatures.ifas.ufl.edu/veg/leaf/silverleaf_whitefly.htm.

Mites

Reports from the Manatee/Ruskin area indicate that mite populations are increasing in tomatoes and pressure is heavier than normal in spotty locations.

Respondents in Palm Beach report are spider mites on tomato and eggplants. Some growers have had success with a program of Agrimek and Trilogy. Broadmites are present on pepper in a number of locations.

Around Immokalee, spidermites are running a close second to whiteflies for grower's attention in tomato, watermelons, eggplant and pepper. These are mainly two-spotted mites.

Broadmites are widely present in a number of fields around southwest Florida with few pepper fields displaying severe leaf distortion.

For further information on two-spotted spider mites, visit the UF/IFAS Featured Creatures website at http://creatures.ifas.ufl.edu/orn/twospotted_mite.htm.

Worms

Around Southwest Florida, growers and scouts report tomato pinworms are increasing - most likely due to reduced spraying in many fields and the presence of tomato volunteers within watermelon fields. The rindworm complex - beet armyworms, loopers and southern armyworms are around in melons but mainly under control. Melonworms and pickleworms are present in scattered locations, with some high numbers being reported and growers noting problems worms boring into squash and cantaloupes in a few locations.

In the Palm Beach area, worm pressure remains low to moderate with a mixed bag of worms being reported.

Around the Manatee/Ruskin area, some pinworms are still being reported. Most respondents indicate mostly low numbers but some reports have noted increased pressure in recent days in some places.

Reports are also noting increased numbers of beet armyworm, southern armyworm and loopers as grower reduce spray schedules. Rindworm numbers remain relatively low in melons.

Pepper Weevil

Reports from the Manatee/Ruskin area note a seasonal rise in pepper weevils as pepper crops mature.

Dr. Dave Schuster reported on ongoing pepper weevil work at GCREC during the field day on April 10. Pepper weevil is the key pest of peppers in South Florida, but has been able to develop resistance to insecticides used for its control. In addition to current evaluations of rotations of insecticides of different chemical classes for weevil control (results unpublished), Dr. Schuster is also evaluating the use of parasites. Releases of the native parasite, Catolaccus hunteri, on an alternative weevil host plant, nightshade, during the summer off-season has anecdotally resulted in reduced populations of the pepper weevil. In addition, releases of the parasite in pepper beginning before first budding has resulted in delayed infestation.
Further studies are on going with an exotic parasite from Mexico, *Triaspis eugenii*, which attacks the egg of the pepper weevil, killing the *hatching weevil larva*. Establishment of the parasite in the field could contribute to natural control of the pepper weevil and this work is also ongoing in Bradenton.

Growers and scouts around Southwest Florida report some increase in pepper weevil activity but note that while it is high in some areas and numbers still remain below normal in others.

**Leafminers**

Growers and scouts in Manatee County report leafminer pressure has increased in some places but remains under control in most fields.

In the rest of the area, most crops are past the stage where controls are being applied.

**Aphids**

Some aphids have been noted in cantaloupes in the Manatee/Ruskin area.

**Stinkbug**

Several reports have noted low amounts of stinkbug damage appearing in tomato and other crops, probably as the result of reduced spray programs.

**Diseases**

Scattered showers and generally favorable conditions have resulted in increased disease pressure across the area.

**Bacterial diseases**

Around Immokalee, bacterial spot remains widely present in both tomato and pepper.

In the Ruskin area, reports indicate bacterial spot is still fairly heavy in most locations, some fruit infections have been noted.

**Early Blight**

Reports from the East coast indicate that early blight is widely present on tomato but the incidence and severity remains low to moderate. The situation is similar around southwest Florida.

Early blight is widespread on tomato in the Manatee/Ruskin area. Reports indicate that incidence and severity is moderate to severe in some places. In at least one instance, fruit set has been reduced due to a combination of high temperatures and early blight on flowers.

**Target spot**

Respondents in Southwest Florida indicate that target spot continues to be a problem on tomatoes and has moved into the upper foliage and onto maturing fruit in some locations.

Reports from Manatee County note spotty occurrence of target spot on tomato.
Around Palm Beach County, there are scattered reports of target spot on tomato and eggplant. In a few cases, post harvest problems have been noted.

Downy Mildew

Downy mildew is widely present on cantaloupe, squash and watermelons in numerous locations around south Florida.

Dr Ken Pernezny notes that pressure has been high on squash around Palm Beach County. Incidence and severity is mostly low to moderate with some exceptions.

The strain of downy mildew in watermelon is different than the commonly occurring strains of downy mildew that occurs on other cucurbits such as squash, cucumbers, and cantaloupes.

Leaf symptoms can be used to diagnose downy mildew in the field in some 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. Lesions begin in the center of the leaf away from leaf margins as compared to those caused by gummy stem blight, which typically begin at leaf margins. Lesions are usually angular as leaf veins restrict their expansion. When the leaves are moist, a downy grayish fungal growth can sometimes be seen on the underside of individual lesions. On watermelons, yellow leaf spots may or may not be angular and later turn brown to black in color. On watermelons an exaggerated upward leaf curling often occurs that growers sometimes liken to a dead man’s hand.

Gummy Stem Blight

Gummy stem blight is widely present on watermelon around south Florida. Incidence and severity is mostly low to moderate, although scouts report that fields around southwest Florida have been nearly completely defoliated by the disease.

Gummy stem has increased dramatically in watermelons in the Manatee/Ruskin area and control has been difficult in some fields.

Resistance to the strobilurins within Didymella bryoniae (gummy stem blight) does exist in Florida and other states, thus control is difficult. Research is currently underway in Florida, looking at isolates from different production areas to determine how widespread this resistance is. Because of this, control should be based on a rotation of products. Information on GSB can be found in IFAS Plant Pathology Fact Sheet PP27 at http://plantpath.ifas.ufl.edu/takepub/FactSheets/pp0027.pdf

Strobilurin fungicides such as Cabrio and Quadris should provide good control of several common cucurbit diseases including gummy stem, but growers are reminded of the need to practice resistance management as resistance to these materials has appeared in a number of places. Strobilurins should be rotated with the white (chlorothalinil) and yellow (manzate/mancozeb) fungicides and applications should not exceed labeled amounts.

Tomato Yellow Leaf Curl Virus

Around Southwest Florida, Tomato Yellow Leaf Curl virus incidence continues to increase with many fields many tomato fields are finishing the season at 100 % infection. Dr Phil Stansly suggests that should this trend continue growers may want to look at using one of the tomato yellow leaf curl virus resistant varieties in their spring planting program.
Reports from around Palm Beach indicate that the incidence of Tomato Yellow Leaf Curl is increasing in a number of areas.

TYLCV incidence is also increasing in the Manatee Ruskin area.

Phyllis Gilreath reports that this season has been a prime example of what can happen when TYLCV infected tomato crops are not destroyed in a timely manner or crops are picked longer than normal. Planted earlier and often picked longer grape tomatoes are essentially bridging the gap between the fall and spring crops in west central Florida. What little crop or host free period we thought we had has been reduced or essentially lost by over wintering crops and the lack of a good killing freeze. Some thought this winter’s temperatures were low enough to destroy the crop on their own, but this was not the case, as some growers found when they started seeing regrowth in plants that were “frozen” but never herbicided or burned. This year, “fall” grape tomatoes effectively served as a “winter nursery” for virus and whitefly, with the result being devastating for adjoining spring tomato fields with virus percentages approaching 100% in some blocks! Unfortunately, then you begin getting a domino effect, with the “circle of influence” widening as the season progresses.

Growers are urged to not let their guard down and at the same time, consider their neighbors. When picking crops such as cherries and grapes where the harvest interval is shortened and thus the choice of chemicals may be fewer, at least consider applications of something like an oil to help reduce adult populations, for the sake of your own surrounding fields as well as your neighbors. Although whitefly numbers this spring have not been as high as in some seasons in the past, apparently many were “dirty” coming in from virus infected fields, thus increasing primary infection or transmission in other fields.

Although chemical applications for control of adult SWF early in the season in fields treated with Admire or Platinum has typically not been recommended, growers who know they are close to old, virus laden fields may see a benefit from an adulticide. If you are in this situation, choose materials in different chemical classes from Admire and Platinum to minimize resistance problems.

Additional suggestions for breaking the cycle can be found in an article by Dr. Jane Polston in last years Tomato Institute Proceedings, available online at the SWFREC website at http://www.imok.ufl.edu/veghort/docs/tom_inst_2002_091202.pdf

Phytophthora

Around Southwest Florida, Phytophthora capsici is present on eggplant, pepper, squash and watermelon in several widely scattered sites. Recent rains have caused some increase in incidence and fruit infections have been reported on watermelon harvested in from low lying places in individual fields.

Respondents in Manatee County indicate that Phytophthora spp. has also been found in some wetter melon fields.

Choanephora fruit rot

Choanephora wet rot (also known as blossom rot or whisker rot) is still a problem in squash in the Manatee area. Wet rot is hard to control, especially when there is moisture from rain, overhead irrigation or dews. Control is often dependent on how well sprays can be directed into the canopy. Another problem is the bloom/fruit set frequency. With new blooms opening daily, it is difficult to keep these new blooms protected with fungicides. Go to http://plantpath.ifas.ufl.edu/takextpub/FactSheets/pp0011.pdf for more information on wet rot and cultural practices that may help.
Choanephora fruit rot is also widely present on squash in a number of areas around south Florida. Incidence and occurrence has increased with recent showers.

**Powdery Mildew**

Respondents around Southwest Florida note that powdery mildew remains active especially in older squash. Incidence and severity is high in some fields.

Grower and scouts in Palm Beach report the occurrence of powdery mildew on a variety of crops including cucumber, pepper, and squash.

**Mosaic**

Growers and scouts continue to report finding mostly low levels of virus in squash in scattered locations across South Florida. Some locally heavy hotspots with a higher incidence of the disease have been reported.

Survey results of viral distribution in Southwest Florida conducted by Susan Webb and Gene McAvoy indicate that the majority of virus (~97%) present in cucurbits this season was papaya ringspot virus.

**Fusarium**

Fusarium race 3 wilt has been reported in the Manatee area and some reports indicate rapid increase in occurrence in some places as tomato fields approach harvest.

**Fusarium wilt of watermelon is widely present in south Florida.** In many production areas of south Florida, Fusarium wilt has expressed severe symptoms towards harvest. Based upon plants examined by Pam Roberts, Don Hopkins, and Tom Kucharek, we now believe that the sudden vine collapse that has been affecting many watermelon fields around southwest Florida is being caused by fusarium. The condition being observed in watermelon is somewhat atypical in that the wilt is occurring late in the crop cycle approaching harvest and characterized by scorched leaves, defoliation and rapid vine collapse. It is estimated that over half of the watermelon acreage is affected.

Field identification for Fusarium wilt can be done reliably by longitudinally slicing the lower stem and/or roots and observing the discolored vascular tissue that is the result of the fungal infection. The color of the vascular tissue can be yellow, orange, red, brown, or something in between. Go to UF/IFAS Plant Pathology website [http://plantpath.ifas.ufl.edu/takextpub/FactSheets/circ1025.pdf](http://plantpath.ifas.ufl.edu/takextpub/FactSheets/circ1025.pdf) for information on Fusarium wilts including color pictures and etiological information related to this and other Fusarium wilt diseases in Florida.

**Southern Blight**

Southern blight is also present in tomato and eggplant in scattered places around southwest and west central Florida.

**Mexican Fruit Fly Larvae Found In Pinellas County**

PINELLAS PARK – Florida Commissioner of Agriculture Charles Bronson recently announced that several suspected larvae of the Mexican fruit fly have been detected in Manzano peppers from two produce markets in Pinellas County. Since the Mexican fruit fly (Mexfly) is potentially devastating to citrus and has not been found in Florida since 1972, Commissioner Bronson is asking citizens to help stop the spread of this pest.
"These larvae were found on April 29, but because more suspected Mexfly larvae were found in other southern states earlier in the week, we're quite concerned that there could be more infested peppers elsewhere in Florida. Our specialists are on high alert checking produce markets and placing additional fruit fly detection traps near the markets where these peppers were found," Bronson said. "The USDA has halted all shipments of Manzano peppers from Mexico to the United States, but we need storeowners and homeowners to help stop the further spread of these infested peppers."

All the infested produce has been Manzano peppers, are also known as Rocoto peppers. Inspectors with the Department's Divisions of Plant Industry and Food Safety and the USDA have been working since April 29 to inspect all produce / farmers' markets which may have received infested shipments of Manzano peppers from Mexico over the last several weeks. All Manzano peppers of Mexican origin found in Florida markets are being checked for larvae and will be confiscated and properly destroyed. Bronson asks all storeowners who sell these peppers to contact the Department's toll-free helpline at (888) 397-1517 if they have not yet been inspected, and to immediately freeze all such peppers, or if freezing is not possible, place it in a cooler until an inspection can be scheduled.

Bronson has also asked all homeowners who may have purchased Manzano peppers over the last several weeks to likewise immediately freeze any recently purchased peppers and contact the Department for pick-up, inspection and proper disposal.

The Manzano pepper (Capsicum pubescens) is a small pepper (2-3 inches), generally orange, red or yellow (with all immature stages being green), and often shaped like a tiny bell pepper. It is extremely hot, and its most distinctive feature is that it is the only chile pepper with black seeds.

The Mexican fruit fly attacks several fruits and vegetables grown in Florida, and especially prefers grapefruit and other citrus as a host.

Anyone with questions about the Fruit Fly Program or specific help identifying their peppers should contact the toll-free Fruit Fly Helpline at (888) 397-1517.

The Mexican fruit fly, Anastrepha ludens (Loew) is a serious pest in many of the regions where it occurs, from northern South America to northern Mexico, penetrating into southern Texas. California, Arizona, and Florida are especially vulnerable to attack by this fly. It was detected in Florida in 1934 and 1972, but did not proliferate. If it were to become established in southern California, Arizona, or Florida, it probably would cause heavier losses than it does in southern Texas because more kinds of host fruits are grown in these states than in southern Texas.

The adult is slightly larger than a housefly and is mostly yellowish-brown in color. The wings are transparent where they are not mottled and are striped with yellowish-brown bands. The larva is white with typical fruit fly larval shape (cylindrical, elongated, anterior end usually somewhat recurved ventrally and with mouth hooks, and flattened caudal end). Accurate larval identification of A. ludens and other species of Anastrepha is difficult.

The female typically oviposits in citrus and other fruit at the time when the fruit begins to show color. Eggs are usually laid in groups of ten and hatch in six to 12 days. The newly hatched larvae eat and burrow into the pulp of the fruit, taking on the color of their food so that when small they are overlooked easily. Many maggots may be found in a single fruit. When fully grown, the larvae emerge through conspicuous exit holes, usually after the fruit has fallen to the ground, and pupate in the soil. Larval development requires approximately three to four weeks, depending largely upon temperature conditions during these periods of development. The development is more rapid where comparatively higher temperatures prevail, and as a general rule, the shorter the period for fruit maturation the more rapid is the development of the larva.
Adults may survive for many months, occasionally almost a full year, and males appear to be able to survive much longer than females, even as much as 16 months. All varieties of citrus except lemons and sour limes are attacked. Grapefruit is the preferred host, with oranges second. Pear, peach, and apple are preferred among the deciduous hosts, and white sapote and mango are preferred among the subtropical fruits. Avocado, while not a preferred host, is attacked. Other hosts include pomegranate, quince, rose apple, cherimoya, custard apple, jincluiil, mamey, and yellow chapote. Still other fruits and vegetables have been infested under laboratory conditions (Baker et al. 1944), including cacti, figs, bananas, tomatoes, peppers, squash and beans.

Continual detection, survey and eradication campaigns are being conducted in the cultivated citrus sections of northwestern Mexico, adjacent to California, and occasionally in the southern part of California when new invasions are detected.

Sterilization of fruit before shipment from quarantined areas is required. Orange, sweet limes, grapefruit, mangos, sapotes, peaches, guavas, and plums are denied entry from Mexico into the United States by Federal Quarantine No. 5. Federal Quarantine No. 64 was enacted to prevent the shipment of certain fruits (mangos, sapotes, peaches, guavas, apples, pears, plums, quinces, apricots, mameys, ciruelas, and citrus fruits, except lemons and sour limes) from several counties in Texas to other parts of the country except under certification by the U.S. Department of Agriculture.

Product Updates

Acrobat 50 W – Joe Mitchell, BASF notes that the state of Florida approved Acrobat 50WP for the control of Downy Mildew and Phytophthora capsici in cucurbits, bulb vegetables, and lettuce, effective May 1, 2003. Acrobat is labeled for downy mildew in cucurbits but is not effective against gummy stem blight. Acrobat 50 WP can be used at a maximum rate of 6.4 oz/acre on cucurbits. The limitations are five applications per crop, a limit of 2 sequential applications before alternating with another fungicide, a limit of 32 oz per acre per crop, and it can be used on the day of harvest provided that harvest is initiated after the spray has dried.

Dr. Tom Kucharek, Plant Pathologist, University of Florida, writes that Acrobat 50 WP is probably the best alternative we have for some suppression of blight caused by Phytophthora capsici. It will suppress infection of P. capsici that is initiated in plant parts above the ground. It will not be effective in suppressing infection initiated below the soil surface. Because P. capsici is classified among the watermolds (Oomycetes), it is most likely to cause problems shortly after heavy rain or irrigation events where water stands in the field. Also, once a field is contaminated with P. capsici, it is likely to remain at that site through its ability to survive by itself for at least 45 weeks or by continued cycles in susceptible weeds.

Carbaryl – On April 2, the EPA issued a FEDERAL REGISTER Notice announcing the release of revised risk assessment documents for the insecticide carbaryl otherwise know as Sevin®. EPA proposes extending the REI’s on carbaryl for a number of crops. The deadline for submitting comments to EPA on Carbaryl is June 2, 2003.

There are two ways that you may submit public comment. The first method is via email. (EPA prefers this method.) EPA's email address to send public comment is opp-docket@epa.gov. If you prefer, comments may also be sent by regular mail. The mailing address is:

Public Information and Records Integrity Branch (PIRIB) (7502C)
Office of Pesticide Programs (OPP)
Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460-0001
Regardless of the method chosen, be sure to include your the Docket ID Number OPP-2003-0101 in the subject line of your letter. In addition, it is important that your contact information be included.

Sanitation, Sanitation, Sanitation...

As we near the end of the season growers are reminded of the importance of sanitation in an integrated pest management program. Disease and insects do not magically materialize to plague growers. Many require a living host to carry them from one season to another.

Field sanitation is one of the most important tactics in vegetable pest and disease management. One of the best things that growers can do for themselves and their neighbors is to clean up crop residues promptly after harvest. Sanitation is an important IPM technique that should not be over looked as an effective, preventative tool against many vegetable pest and disease problems. Sanitation includes any practice that eradicates or reduces the amount of pathogen inoculum, pests, or weed seeds present and thus helps reduce or eliminate subsequent pest and disease problems.

Prompt crop destruction at the end of the season will immediately end the production of disease inoculum and insects and eliminate the spread of diseases and pests to any other host plants in the vicinity. Downy and powdery mildew on melons can spread via wind from older, diseased plants to plants in surrounding fields that are still maturing. These diseases are obligate parasites. This means that they can only grow and multiply on living host tissue. Some plant pathogens, such as the bacterium that causes bacterial spot of tomato and pepper, are unable to survive for extended periods of time outside of the host tissue. Plowing or disking under infected plant debris helps not only by covering up the inoculum but also speeds up the disintegration of plant tissue and kills the pathogen. Good sanitation will help control a number of important vegetable pathogens.

Soil tillage can destroy insects and expose them to birds and other predators. It can also speed the breakdown of plant residues that harbor insects and plant pathogens. By either allowing the organic matter in a field to decompose completely before you plant the next crop and/or allowing a fallow period between crops, you can enhance the control of a number of insects and diseases.

Destruction of tomato vines will kill off white fly populations and eliminate transmission of the tomato yellow leaf curl virus to subsequent crops and also eliminate inoculum from late blight and other fungal diseases. This is particularly important in the case of TYLCV, as sanitation and whitefly control are the only tools currently available for the management of this disease. A crop-free period is also considered a necessity for the control of a number of other important vegetable pests such as pepper weevil, tomato pinworm, and Thrips palmi and is recommended for management of all vegetable pests.

A little extra effort spent in cleaning up old fields at the end of the season may well prevent or reduce a number of potential problems next fall!

Summer weed management can be a challenge. Growers should check field margins to make sure that pest species are not building up there and migrating out into cropping areas. Many insects over summer on weeds, so efforts to control them can be profitable by reducing their movement into the crops next growing season.

Weeds are also known reservoirs of nematodes as well as a number of viral, fungal and bacterial pathogens. Weeds and volunteers should be removed to prevent the survival and over-summering of pathogens that could serve as inoculum reservoirs for the next crop. Techniques such as mowing off pepper should not be relied upon as this often results in re-sprouts, which can harbor pests and disease problems over summer.

The use of cover crops and summer fallowing of fields are also effective tools in reducing weed populations that can cause problems in the subsequent crop. The role of summer fallow in weed management is often
overlooked. Summer fallow keeps new weed seeds from being added to the soil seed-bank. It also reduces the increases in asexual propagated plants such as nutsedges. Yellow nutsedge can put out 70 new tubers (nuts) every two months. Keeping the weeds from propagating will reduce the weed problems encountered during the next cropping season and help reduce insects and diseases that may over summer in weedy fields.

**Chemical fallowing is a twist on the traditional method of fallowing** that depends on disk ing fields through out the summer period to reduce weed pressure in subsequent crops. One approach uses Roundup to kill weeds during the crop free period.

**Cover crops planted prior to the main cash crop can also improve soil fertility and provide a valuable source of organic matter.**

**When devising a crop rotation strategy, a grower should also be aware of which crops and cover crops might increase disease problems.** Sunn hemp can increase soil populations of *Pythium* and *Rhizoctonia* damping-off fungi. Some varieties of cowpea may host of root-knot nematode. These factors should be considered before selecting a cover crop.

**Soil solarization is the use of plastic tarps placed on the soil surface to increase soil temperatures to a level that kills soilborne pathogens, weeds, and other crop pests.** Soil solarization works best when summer temperatures are uniformly high. These conditions don’t always occur in Florida. Soil solarization will not eradicate a pathogen from a field, but it may lower pathogen populations.

**Soil flooding is a related means of creating conditions—in this case, saturated soil over an extended period—that might result in a decline of soil-borne pathogens.**

**Integrated pest and disease management is a year round commitment that should incorporate a combination of cultural, biological and chemical pest management techniques.** Be a good neighbor and clean up!

**Up Coming Meetings**

**Miami-Dade**

**June 20, 2003**

**Worker Protection Standard in Spanish** 8:30 – 10:30 AM

Extension Service Auditorium
18710 SW 288th Street
Homestead, Florida

Call 305-248-3311 ext 242 for information.

**Palm Beach County**

**June 2, 2003**

**General Standards/Core Test Review** 8 AM - 10 AM

**Aquatic Weed Control Test Review** 1 PM - 3 PM

Clayton E Hutchinson Agricultural Center
559 North Military Trail
West Palm Beach, Florida

Contact Laura Powell at 561-996-1655.
June 11, 2003

**General Standards/Core Test Review**
8 AM - 10 AM

**Private Applicator Test Review**
1 PM - 3 PM

**Testing - Any Category**
8 AM - 4 PM

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

Contact Laura Powell at 561-996-1655.

Southwest Florida

**May 27, 2003**

**Use of Mycorrhizae for Vegetable Production In Florida**
6 PM

UF/IFAS SW Florida Research and Education Center
SR 29 N
Immokalee, Florida

Contact Gene McAvoy at 863-674-4092

**June 7, 2003**

**Farm Safety Day and Tractor Rodeo**
8 AM – 2 PM

UF/IFAS SW Florida Research and Education Center
SR 29 N
Immokalee, Florida

Contact Barbara Hyman at 239-658-3400

Other Meetings

**June 8-10, 2003**

**Florida State Horticultural Society 116th Annual Meeting**

The Sheraton World Resort
10100 International Drive
Orlando, Florida 32821

For information, contact the FSHS office at 407-261-5420,
or visit the website at http://www.lal.ufl.edu/fshs/

**March 23-27, 2004**

**ISHS International Symposium on Protected Culture in a Mild-Winter Climate**
Orlando, Florida, USA.

Contact Dr. Daniel J. Cantliffe at 352-392-1928 ext. 203

Websites

**Organic Vegetable IPM Guide** – This Mississippi State University site provides valuable information on IPM techniques for organic vegetable producers including lists of resistant varieties. Set your browser to http://msucares.com/pubs/publications/pub2036.htm
Pesticide Information Office – The University of Florida Pesticide Information and Education Office website provides information, educational programs and materials to persons that use pesticides as part of their livelihood, consumers and decision makers. Go to http://pested.ifas.ufl.edu/

List of Federally Registered Restricted Use Pesticides - This list of Federally Restricted Use pesticides is intended solely to assist applicators, educators and consumers in recognizing products which may be classified for such use. Check it out at http://entweb.clemson.edu/pesticid/document/fedrup.htm

Quotable Quotes

My Grandmother is over eighty and still doesn't need glasses. Drinks right out of the bottle. --Henny Youngman

Youth is a wonderful thing. What a crime to waste it on children. – George Bernard Shaw

Opportunity is missed by most people because it is dressed in overalls and looks like work. -- Thomas A. Edison

People try to rain on your parade, because they have no parade of their own. -- Jeffreys Gitomer

Take rest; a field that has rested gives a bountiful crop. – Ovid

On the Lighter Side

A BILLION

A billion can be a difficult number to comprehend, but recently one advertising agency, in one of its releases, did a pretty good job of putting that figure into perspective:

- A billion seconds ago it was 1959.
- A billion minutes ago Jesus was alive
- A billion hours ago our ancestors were living in the Stone Age.
- A billion dollars ago was only 8 hours and 20 minutes at the rate Washington is spending

Watch Out for the Old Fellers

An old farmer had owned a large farm for many years. He had a large pond in the back forty, had it fixed up nice. The pond was fixed for swimming when it was built.

One evening the old farmer decided to go down to the pond, as he hadn't been there for a while, and look it over. As he neared the pond, he heard voices shouting and laughing with glee. As he came closer he saw it was a bunch of young women skinny-dipping in his pond.

He made the women aware of his presence and they all went to the deep end of the pond. One of the women shouted to him, "We're not coming out until you leave!"

The old man replied, "I didn't come down here to watch you ladies swim or make you get out of the pond, I only came to feed my alligators."

Old age & treachery will triumph over youth & skill every time!
The next time you are washing your hands and complain because the water temperature isn't just how you like it, think about how things used to be. Here are some facts about the 1500s: Most people got married in June because they took their yearly bath in May and still smelled pretty good by June. However, they were starting to smell so brides carried a bouquet of flowers to hide the body odor. Hence today’s custom of carrying a bouquet when getting married.

Baths consisted of a big tub filled with hot water. The man of the house had the privilege of the nice clean water, then all the other sons and men, then the women and finally the children—last of all the babies. By then the water was so dirty you could actually lose someone in it. Hence the saying, "Don't throw the baby out with the bath water."

Houses had thatched roofs—thick straw—piled high, with no wood underneath. It was the only place for animals to get warm, so all the dogs, cats and other small animals (mice, bugs) lived in the roof. When it rained it became slippery and sometimes the animals would slip and fall off the roof. Hence the saying "It's raining cats and dogs."

There was nothing to stop things from falling into the house. That posed a real problem in the bedroom where bugs and other droppings could really mess up your nice clean bed. Hence, a bed with big posts and a sheet hung over the top afforded some protection. That's how canopy beds came into existence.

The floor was dirt. Only the wealthy had something other than dirt. Hence the saying "dirt poor." The wealthy had slate floors that would get slippery in the winter when wet, so they spread thresh (straw) on the floor to help keep their footing. As the winter wore on, they kept adding more thresh until when you opened the door it would all start slipping outside. A piece of wood was placed in the entranceway. Hence the saying a "threshhold."

In those old days, they cooked in the kitchen with a big kettle that always hung over the fire. Every day they lit the fire and added things to the pot. They ate mostly vegetables and did not get much meat. They would eat the stew for dinner, leaving leftovers in the pot to get cold overnight and then start over the next day.

Sometimes the stew had food in it that had been there for quite a while. Hence the rhyme, "Peas porridge hot, peas porridge cold, peas porridge in the pot nine days old." Sometimes they could obtain pork, which made them feel quite special. When visitors came over, they would hang up their bacon to show off. It was a sign of wealth that a man "could bring home the bacon." "They would cut off a little to share with guests and would all sit around and "chew the fat."

Those with money had plates made of pewter. Food with high acid content caused some of the lead to leach onto the food, causing lead poisoning and death. This happened most often with tomatoes, so for the next 400 years or so, tomatoes were considered poisonous.

Bread was divided according to status. Workers got the burnt bottom of the loaf, the family got the middle, and guests got the top, or "upper crust."

Lead cups were used to drink ale or whisky. The combination would sometimes knock them out for a couple of days. Someone walking along the road would take them for dead and prepare them for burial. They were laid out on the kitchen table for a couple of days and the family would gather around and eat and drink and wait and see if they would wake up. Hence the custom of holding a "wake."

England is old and small and the local folks started running out of places to bury people. So they would dig up coffins and would take the bones to a "bone-house" and reuse the grave. When reopening these coffins, 1 out of...
25 coffins were found to have scratch marks on the inside and they realized they had been burying people alive. So they thought they would tie a string on the wrist of the corpse, lead it through the coffin and up through the ground and tie it to a bell. Someone would have to sit out in the graveyard all night (the "graveyard shift") to listen for the bell; thus, someone could be "saved by the bell" or was considered a "dead ringer." And that's the truth...

This will be the last regular Pest and Disease Hotline issued for this season. This past season has certainly been a real roller coaster with a little bit of everything (hot, wet, cold, pests and diseases in various combinations) thrown in for good measure – it has been one that many folks will remember for sometime and that many hope does not repeat itself for a good while.

Publication will resume with the start of the 2003 –2004 vegetable season. I would like to acknowledge and extend my sincerest thanks to all of the many contributors who graciously shared valuable information, which has made the hotline so successful and also for the generous support of all our sponsors with out which publication of the hotline would not be possible.

Hope that you all have a great summer and get some well-deserved rest and relaxation.

Contributors include: Joel Allingham/AgriCare, Inc, Karen Armbrester/SWFREC, Kathy Carbiener /Agricultural Pest Management, Jim Connor/SWFREC, Bruce Corbitt/West Coast Tomato Growers, Dr. Phyllis Gilreath/Manatee County Extension, Fred Heald/Farmers Supply, Sarah Hornsby/AgCropCon, Cecil Howell/H&R Farm, Loren Horsman/Glades Crop Care, Bruce Johnson/General Crop Management, Dr. Mary Lamberts/Miami-Dade County Extension, Leon Lucas/Glades Crop Care, Gene McAvoy/Hendry County Extension, Alice McGhee/Thomas Produce, Jimmy Morales/Pro Source One, Tim Nychk/Nychk Bros. Farm, Chuck Obern/C+B Farm, Teresa Olczyk/ Miami-Dade County Extension, Dr. Ken Pernezny/EREC, Dr. Pam Roberts/SWFREC, Dr Nancy Roe/Farming Systems Research, Wes Roan/6 L's, Kevin Seitzinger/Gargiulo, Jay Shivler/ F& F Farm, Ken Shuler/Stephen’s Produce, Ed Skvarch/St Lucie County Extension, John Stanford/LNA Farm, Mike Stanford/MED Farms, Dr. Phil Stansly/SWFREC, Eugene Tolar/Red Star Farms, Dr. Charles Vavrina/SWFREC, Mark Verbeck and Donna 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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