Manatee Vegetable Newsletter May/June 2007

"Life should NOT be a journey to the grave with the intention of arriving safely in an attractive and well preserved body, but rather to skid in sideways - Chardonnay in one hand - chocolate in the other - body thoroughly used up, totally worn out and screaming "WOO HOO, What a Ride!!" .....unknown

June 6 **Public Meeting on Soil Fumigant Pesticides. Harborside Event Center, 1375 Monroe Street, Ft. Myers. See page 7 for additional information.**

June 7 **NFREC Spring Vegetable Field Day, Quincy**. Registration is $10.00 by May 24th. And after $15 after May 24th. Please register by calling (850) 875-7100 ext. 0 or go to http://nfrec.ifas.ufl.edu/comingevents.htm and scroll down to future events. (4 CEU's for Morning Session and 2 CEU's for Afternoon Session for Restricted Use Pesticide License)

June 3-5 **Annual Meeting: The Florida State Horticultural Society**. PGA National Resort & Spa in Palm Beach Gardens, FL. **http://www.fshs.org/default.htm**

June 12 **Private Pesticide Applicator Training and Testing.** 9 AM. Manatee County Extension Service, Palmetto. 2 CORE CEUs offered for those who have a current license.

June 13 **WPS Train-the-Trainer Workshop,** 10 AM – 12 noon. Manatee County Extension Service, Palmetto. 2 Private CEUs requested.

Sept 5 **Florida Tomato Institute, Naples. Watch for more details.**

Dec 6-7 **Florida Ag Expo, GCREC-Balm. Watch for details later.**

BMP Sign-Ups Continuing

We are continuing to sign up local vegetable operations under the voluntary statewide BMP program. It is a relatively painless procedure and I will be happy to go over the process with you. I have been asked by several growers if this means someone will now start coming out to auditor monitor what they are doing. The short answer is 'no'. What I have been told is this: Down the road, DEP will not be monitoring outflow from individual farms whether they have signed up or not. Due to staff and time limitations, they only monitor at sites where lots of farms over a wide area drain to or through. Many of these are monitored now and it is likely that whenever a new TMDL basin is identified, there will be new monitor sites. If there is an exceedence of the TMDL at a particular monitoring site, this will likely cover several thousand acres. Thus, for at least the first go-round, DEP will be looking at users that have not signed up for a BMP program or have no documentation and/or users for which there is no BMP program. Non-participators will have to prove (by sampling, which can be very expensive) that they are not the polluters. Those who have signed up have a 'presumption of compliance'. After 5 years, then it falls to FDACS to work with those growers/users on 'fixing' the problem. In 2009, the Florida Watershed Restoration Act (FWRA) will sunset and after that, they will be looking even more closely at the participation rates and if rates are high, it will look good for agriculture and we have a better chance of avoiding additional regulations.

Pest/Pesticide Update

TYLCV in California TYLCV, previously found in Florida and Georgia, has been found in California and is causing concerns for fresh tomato grower-shippers. Discovery has been limited thus far to a single finding in a southern California desert greenhouse. (from The Packer, 4/23/07)

What does 'Direct Supervision' Mean? Chapter 5E-9 of the Adminstrative Code defines Direct Supervision in the following manner: *"Licensed applicators are responsible for the pesticide use activities and actions of individuals under their direct supervision and shall be in a location from which they can physically arrive on site before or during pesticide use, if and when their presence is needed. The licensed applicator must be immediately available for verbal communication with persons under his or her immediate supervision to provide direction and instruction during all times pesticides are being used.* " Please note that the interpretation of this rule has changed a little, thanks to abuse of the leniency with which it was previously applied. Thus, it is being enforced a little tighter. Direct supervision does **not** mean the licensed applicator is in Immokalee when an application is being made in Parrish. It also does **not** mean the license holder is on another farm 20 or 30 miles away or on the golf course. We all used to think that the 'Nextel network' would suffice in many cases, but the rule is not being

interpreted that way. Make sure that you have licensed applicators actually "supervising" unlicensed applicators. No, they don't have to be right there in the block being sprayed for the whole time, just on the same farm where they can be reached quickly if needed.

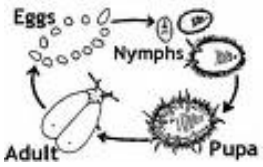
Label Updates

►Chateau herbicide (flumioxazin) has been approved for use on strawberry. The EPA registration number for the Valent product is 59639-119. (*The Grower*, April 2007).

►Ranman fungicide (cyazofamid) has been approved for use on potato to control pink rot. The EPA registration number for the FMC product is 71512-3. (*The Grower*, April 2007).

Two New Whitefly-vectored Viruses Two new whitefly-vectored viruses have been identified in Florida. It appears that the watermelon late-season vine decline and fruit rot disease is caused by a member of the viral family *Potyviridae*. Researchers have proposed the name Squash vein yellowing virus (SqVYV). The virus affects species in the cucurbit family, with squash and watermelon most greatly affected. Another virus attacking squash in north central and northeast Florida is Cucurbit crumple leaf virus (CuLCrV), which is known to occur in the western U.S. In addition to cucurbits, CuLCrV can affect bean plants as well. (*Virology* e-Xtra, Vol. 97, No. 2 & UF EDIS publication IN716).

The following information on cucurbit crumple leaf is taken from the UF/IFAS EDIS FACT Sheet Whitefly-Transmitted Cucurbit Leaf Crumple Virus in Florida. See http://edis.ifas.ufl.edu/IN716 for full document and photos. In November 2006, *Cucurbit leaf crumple virus* (CuLCrV) was found in squash (*Cucurbita pepo* L.) fields in north central and northeast Florida. Leaves of yellow straightneck squash and zucchini were thickened and distorted, as well as curled and crumpled. The leaves of yellow straightneck squash plants were rounded on the edges while leaves of zucchini plants were not. Zucchini fruit did not show obvious symptoms, but the fruit from infected yellow straightneck squash were streaked with green, making them unmarketable. Feeding by whitefly nymphs causes silvering of leaves of squash and blanching of yellow-fruited squash and yellow blotchiness of green-fruited squashes. The whitefly induced leaf silvering is distinct from cucurbit leaf crumple disease and should not be confused with it. Reports indicate that symptoms look different than other virus symptoms seen in cucurbits in Florida.

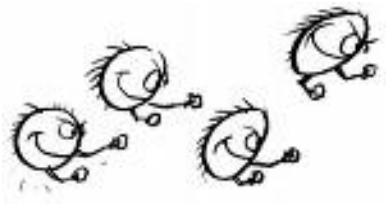


Cucurbit leaf crumple virus is a begomovirus reported from the western United States (Arizona, Texas and California) and northern Mexico. (*Cucurbit leaf crumple virus* has been known in some locations as *Cucurbit leaf curl virus*). *Cucurbit leaf crumple virus* is able to infect most cucurbits including cucumber, muskmelon, squash, pumpkin, and watermelon, and has been reported to infect bean. Honeydew, Crenshaw, and casaba melons appear to be immune (Natwick, 2003). As with other begomoviruses, this virus is transmitted in a persistent manner

by various biotypes of the whitefly, *Bemisia tabaci*, including the silverleaf whitefly (*B. tabaci* biotype B). The adult whitefly must feed for a minimum of 30 minutes on the infected plant and can only transmit the virus after a delay of 6-8 hours. Once the whitefly is able to transmit the virus, it can continue to do so for days. The virus cannot be transmitted mechanically and is unlikely to be transmitted through seed. Management of this new virus will not be much different than management of other begomoviruses in vegetable crops such as *Tomato yellow leaf curl virus* in tomato. Virus- and whitefly-free transplants should be used, and transplants produced in states where this virus is known to be a problem (Texas, Arizona, California) should not be planted in Florida. Where whiteflies are a problem, a soil-applied neonicotinoid insecticide such as imidacloprid (Admire®), thiamethoxam (Platinum®), or dinotefuran (Venom®) should be used at planting. If a foliar application of dinotefuran is used instead of a soil application, it is best to apply it in the first 30 days of the crop, before flowering. In addition to protecting bees, it also will help limit the exposure of the whitefly population to neonicotinoids during the latter part of the crop cycle. The crop should be monitored regularly for the presence of adult whiteflies. An application of pymetrozine (Fulfill®) will reduce the number of adults and nymphs and can help slow virus spread into and within the crop. Other materials that can be used to reduce adult populations include endosulfan or a combination of bifenthrin and endosulfan. Spiromesifen (Oberon®), is effective against immature stages of the whitefly as is buprofezin (Courier®), an insect growth regulator. Although spiromesifen and buprofezin affect only reproduction and survival of immatures, they can help reduce secondary spread within and between fields by slowing the increase of the whitefly population. Because of concerns about insecticide resistance in whiteflies, it is critically important to observe the restrictions on the number of applications, to rotate insecticide applications among chemicals in different classes, and never follow a soil application of any neonicotinoid with a foliar application of another neonicotinoid. **Further information on management of both begomoviruses and resistance to neonicotinoids can be found on the Whitefly MoA poster at the IRAC (Insecticide Resistance Action Committee) Website - http://www.irac-online.org**

In addition to starting with virus- and whitefly-free transplants, other effective cultural controls include avoiding planting next to older, whitefly-infested crops (virus and whitefly hosts such as beans and other cucurbits, but also whitefly hosts such as cabbage, collards, peanuts, tomato, cotton, and soybeans). Use UV-reflective mulches, which repel migrating whiteflies in the first few weeks of the crop (until canopy closure), thus delaying the introduction of virus. These mulches also repel aphids and will give additional benefits by reducing early spread of aphid-transmitted viruses. Remove weeds from fields, as they can be hosts for whiteflies, and can interfere with thorough coverage with insecticides applied for whitefly control. **We do not know if it has established in the state, but UF/IFAS scientist are working on this and hope to find out soon.** We also do not know the distribution with in the state but hope to address this soon as well.

New Threat to Watermelon



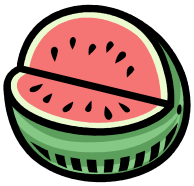
Last July, plant pathologist Chandrasekar Kousik of the Agricultural Research Service (ARS) U.S. Vegetable Laboratory in Charleston, S.C., was conducting field studies on a watermelon disease when he made a startling discovery: significant infestations of broad mites on watermelon plants. Kousik knew that he had made a troublesome finding, as broad mites had never been reported on watermelon plants in the United States. Broad mites, *Polyphagotarsonemus latus*, feed on at least 60 plant families. Cucumbers are highly susceptible to the mite, which on the watermelon plants was seen damaging tender leaves and growing tips. The discovery inspired Kousik and fellow scientists to seek ways to use plants' natural resistance to fight off the mite. They turned to a collection of wild watermelon—plants from different regions of the world—maintained by the ARS Plant Genetic Resources Conservation Unit in Griffin, Ga. The researchers studied 219 plant accessions and ultimately chose six they regarded as having the best resistance potential against broad mites. These wild watermelon varieties may be useful as sources of natural genetic resistance during the development of commercial watermelon varieties that resist the mites. (Luis Pons, ARS, April 11, 2007)

The following are abstracts of papers which will be presented at the June 4-5 Florida State Horticultural Society meeting in Palm Beach:

Effects of Pruning on 'Florida 47' and 'Sungard' Tomato

Four trials were conducted to assess the effect on tomato yield of pruning side branches at 2 weeks after transplanting (WAT). 'Florida-47' and 'Sungard' tomato were pruned allowing 1, 2, and 3 main stems to grow. A non-pruned control was also included. Plant height was measured at 3 and 4 WAT in 'Sungard' treatments and at 4 and 6 WAT. Marketable fruit weights were collected twice for each cultivar during each season and graded as extra-large, large, and medium fruits. There was significant effect of the pruning regime on the initial measurement of plant height of both tomato cultivars, but that effect disappeared on later observations. There was no effect of pruning on fruit weight per category and on total fruit weight. This indicated that growers may not require this field practice, reducing labor costs and possible transmission of diseases through mechanical removal of the side branches. (Bielinski M. Santos, GCREC)

Variability in Watermelon Flower Attractiveness to Insect Pollinators



In the Spring and Fall of 2006 pollinator preference of diploid watermelon pollenizers was recorded at Quincy, Fl. Triploid watermelon plants [*Citrullus lanatus* (Thunb.) Matsum. & nakai.] do not produce sufficient viable pollen to pollenize themselves and a diploid cultivar must be planted in the field as a pollen source. Recent studies have illustrated differences in triploid watermelon yields as a result of the pollenizer cultivar used. Pollinator preference of watermelon pollenizers may greatly affect the amount of viable pollen that is being moved throughout a field and thus the

amount of triploid fruit that will be set. Pollinator visitations were recorded for the pollenizer cultivars Companion, Mickylee, and SP-1, and the triploid cultivar Intruder. Visitation to 'Mickylee' and 'SP-1' was greater than that of 'Companion'. Visitation of the diploid cultivars was also greater than that of the triploid cultivar. 'Companion' has recently been shown to be a less effective pollenizer than 'Mickylee' or 'SP-1' and lower visitation by pollinators may be a contributing factor. 'Companion' has a nearly entire leaf and staminate flowers that are produced on short peduncles. In many cases this may obstruct the view of the staminate flowers which may reduce the pollinator visitation as visual cues are used in long range foraging decisions. It is important that a pollenizer cultivar be more attractive to pollinators than the triploid because foraging of triploid staminate flowers can reduce the percentage of viable pollen being moved throughout a field. This study suggests that pollenizer attractiveness to pollinators may be an important factor that determines a pollenizer's performance. (J.H. Freeman, Horticultural Sciences, UF/IFAS and S.M. Olson, NFREC-Quincy, UF/IFAS.)

Bee Colony Collapse Disorder (CCD)

The U.S. beekeeping industry has faced a number of obstacles to healthy bee management over the years. Now a new problem threatens the beekeeping industry and it may eclipse altogether the bee maladies of old. Termed "colony collapse disorder" (or CCD), the disorder has gained considerable national and international attention. Beekeepers around the United States have reported higher-than-usual colony losses since the fall of 2006. Some beekeepers in states reporting CCD have lost 50 to 90% of their colonies, often within a matter of weeks. This translates into thousands of dead colonies and millions of dead bees. In a country where honey bees contribute billions of dollars in added revenue to the agriculture industry, these bee losses cannot be taken lightly.

Symptomatically, colonies with CCD can appear healthy as few as three weeks prior to collapse. However, the adult bees soon "disappear" (hence its historic nickname "disappearing disease") from the colonies, leaving behind a box full of honey, pollen, capped brood, a queen, and maybe a few worker bees. Beekeepers report that colonies with CCD do not contain any dead bees, neither are there dead bees on the ground outside of the colonies. The adult bees simply vanish. The final symptom is that small hive beetles, wax moths, and other nearby honey bees ignore the empty hives even though the hives contain foodstuffs on which they ordinarily feed.

The benefits of honey bee pollination are not to be taken lightly. The simple act of beekeepers moving honey bees around the country ensures our country's food supply. Agriculture needs honey bees and their disappearance is cause for concern. Yet, no one believes that honey bees will disappear altogether, even with the concerns over CCD. Instead, the average American may experience increased food prices and decreased food availability if honey bees continue to die at the current rate. (From http://pestalert.ifas.ufl.edu/Colony_Collapse_Disorder.htm)
Two other sources of additional information are: Bee Alert Technology, Inc.:

http://beealert.blackfoot.net/~beealert/index.php Mid-Atlantic Apiary Research and Extension Consortium: http://www.ento.psu.edu/MAAREC/index.html

EPA Public Meeting on Soil Fumigant Pesticides

EPA's Office of Pesticide Programs (OPP) is planning to hold two stakeholder meetings (Washington and Florida) to obtain public input on risk management options for the soil fumigant pesticides chloropicrin, dazomet, metam sodium, metam potassium, and methyl bromide.

Reregistration for 1,3-dichloropropene (1,3-D or Telone) was completed in 1998, but it is included in the review for comparative purposes. The purpose of the meetings is for the Agency to obtain first-hand comments on possible human health risk mitigation options from stakeholders who are most affected by soil fumigant use, including ***growers, professional fumigant applicators, farm workers, neighbors and community members, local officials, and others.*** California and EPA have been working together on soil fumigant issues during the last several years, and use similar approaches to reduce exposure. Stakeholders' comments at these meetings will help inform EPA's decision later this year on the reregistration eligibility of several soil fumigant pesticides. Through the reregistration program, EPA is ensuring that all pesticides meet current health and safety standards.

The Florida Meeting is Wednesday, June 6, at Harborside Event Center, 1375 Monroe Street, Ft. Myers. For Florida meeting information contact. Nathan Mottl, Special Review and Reregistration Division (7508P), Office of Pesticide Programs, Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460-0001; telephone number: (703) 305-0208; fax number: (703) 308-7070; e-mail address: mottl.nathan@epa.gov.