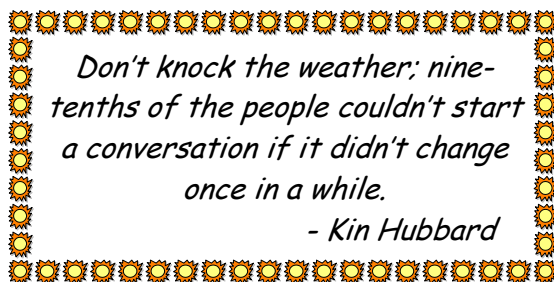


Electronic Newsletters

In light of current and possible future budget cuts, we are trying to increase departmental efficiency. One way to do this is to provide more information such as newsletters, program announcements, etc. via email rather than mailing paper copies. We do this to some extent now, but if this is an option that would work for you, or if you would prefer to receive an electronic version only, please send a quick email to me at phyllisg@ufl.edu with the subject line 'newsletter'. With email, I can also provide you with more timely information about programs or other items of interest. If you have questions or program ideas, do not hesitate to contact me at any time.



New GCREC Faculty

Welcome to the newest Plant Pathologist to join the faculty at the GCREC in Balm. Dr. Gary Vallad comes to us from the University of California where he worked in the Salinas area. He received his B.S. (Biotechnology and Microbiology) and M.S. (Crop and Weed Science) from North Dakota State University and his Ph.D. from the University of Wisconsin in Plant Pathology. Gary will be splitting his time between vegetables and ornamental crops. Next time you are by the Research Station, please stop in and say hi. Gary is anxious to meet the members of the local agricultural community and to learn more about vegetable production and problems in Florida.

Vegetable BMP Program Sign-Up

We are continuing to sign up local vegetable growers for the statewide voluntary BMP program. It's relatively quick and painless. Just give me a call and I will explain how we make it easy. It's in your best interest to do this sooner rather than later.

Publications/Websites of Interest

► **Biopesticide/organic Database** : The Interregional Research Project No. 4 (IR-4) announced in mid-May the launch of its biopesticide/organic database on the IR-4 website: (www.ir4.rutgers.edu/Biopesticides/LabelDatabase/index.cfm). The database, which is searchable by crop, pest, and state, will assist commercial and home growers of specialty crops. The database enables growers to input their crop, pest and state and it responds by providing a list of EPA registered product labels that fit their criteria. It also supplies the manufacturer contact information and other pertinent data. (IR-4 Release, 5/17/07).

► **Clemson Watermelon Disease Guide:** <http://www.clemson.edu/coastalrec/IL86%20Watermelon%20Spray%20Guide%202007.pdf>

► **The Beneficial Arthropods: Predators Image Gallery** CD-ROM (SW 189) contains 133 different images, including adults and immatures, of 37 beneficial arthropod species or groups. The format is HTML and the CDs may be used with any PC or Mac that has a CD-ROM drive and a Web browser. The images are delivered in three different sizes and resolutions: print quality (TIF), display for large audiences (JPG) and Web-optimized (JPG). All images are copyrighted by UF/IFAS but are authorized for free use by educational organizations, the media. There are additional restrictions on commercial or for-profit use.

The cost is \$15. Call the UF/IFAS Extension Bookstore at (800) 226-1764 to order. See details on groups covered and commercial restrictions on the UF/IFAS Buggy Software Web site at <http://pests.ifas.ufl.edu/software/>.

► The **National Agricultural Library** has published its **Thesaurus and Glossary in a Spanish version**. The Thesaurus comprises more than 15,700 translated concepts. Included are definitions for more than 2,400 of the concepts, in both English and Spanish. A link to both the English and Spanish versions is available on the UF/IFAS Pest Alert site at <http://pestalert.ifas.ufl.edu/>.

► **SS-AGR-27/AG126: Conversion Factors**

Revised! A 3-page fact sheet by F.M. Fishel, J.A. Ferrell, and G. E. MacDonald, provides conversion factors for mass, area, velocity, pressure, temperature, length, liquid, and commodity weights, plus a list of abbreviations. Published by the UF Department of Agronomy, May 2007. <http://edis.ifas.ufl.edu/AG126>

Pest/Pesticide Update

- Many of you attended the meeting in Ft. Myers in June on the risk assessment for fumigants. **The comment period regarding the fumigant risk mitigation options is being extended until September 3.** You still have the opportunity to make written comments. Please contact the UF Pesticide Information Office or FFVA if you have questions regarding this action. Or go to http://www.epa.gov/pesticides/reregistration/soil_fumigants/ for additional information.
- On June 11, the FDACS authorized the experimental use of dimethyl disulfide (**Paladin®**) as a soil fumigant in cucurbits, pepper, strawberry, and tomato. The permit is EPA EUP No. 4581-EUP-1 and is authorized through May 1, 2008. Maximum area of treatment is 200 acres. (FDACS letter of 6/11/07).
- On June 18, the Florida Department of Agriculture and Consumer Services (FDACS) authorized the experimental use of the insecticide chlorantraniliprole (**Coragen®**) in celery, cucumber, pepper, squash, tomato, watermelon, and other crops. The permit is EPA EUP No. 352-EUP-170 and is authorized through May 4, 2009. (FDACS letter of 6/18/07).
- The EPA has approved tolerances for the herbicide clethodim (**Select®**). Tolerances of importance

in Florida include herbs (subgroup 19A), leafy greens (subgroup 4A), and legume vegetables except soybean (group 6). (*Federal Register*, 5/9/07).

- The EPA has once again approved a Section 18 specific exemption in Florida for the use of thiophanate (**Topsin® M**) on fruiting vegetables to control white mold. The exemption will expire on 4/12/08. (FDACS letter, 4/9/07).
- **Sovran fungicide** (kresoxim) has been approved for use on cucurbits to control powdery mildew and gummy stem blight. The EPA registration number for the BASF product is 7969-154. (*The Grower*, May 2007).
- **Expanded labels for Actara® and Platinum®** Syngenta Crop Protection announced that the U.S. Environmental Protection Agency (EPA) has granted its Actara® and Platinum® insecticides expanded labels that allow higher application rates and use on additional vegetable and grape crops. State registrations for these expanded rates and uses are pending. The new crop groups for Actara include fruiting vegetables, cucurbits, leafy vegetables, brassica crops and grapes. For Platinum, leafy vegetables, brassica crops and grapes have been added. For complete information, refer to the products' labels.
- The EPA has approved tolerances for the herbicide pendimethalin (**Prowl®**). Tolerances of importance in Florida include beans and pea, celery, cucumber, lettuce (head and leaf), pepper, spinach, squash, tomato, and watermelon. (*Federal Register*, 5/16/07).
- **California** plans to enact the most costly **pesticide regulation** in state history as it cracks down on use of **fumigants** in farm fields to comply with a court-ordered deadline to combat smog. Under the proposed regulation, California will be the first place in the nation to target the widely used chemicals, imposing statewide restrictions on how fumigants are applied as well as limits on use in three farming regions. State officials warned that the cost will be extremely high - estimated at \$10 million to \$40 million a year - and that growers of strawberries, carrots, tomatoes and peppers will bear the brunt of it. The biggest burden will fall on Ventura County's strawberry growers, who will face strict caps on emissions and may have to resort to pulling thousands of acres out of production to meet the smog targets. The director of public policy for the California Strawberry Commission was quoted as saying, "We are very concerned about the cost of the regulation. Using old, obsolete data, they are imposing a regulation that could drive a third of the acreage out of production in Ventura." (*Los Angeles Times*, 5/18/07).
- A virus technology with potential to control red imported fire ants (*Solenopsis invicta*) is available for licensing from the ARS. Scientists in the Imported Fire Ant and Household Insects Research Unit at the ARS Center for Medical, Agricultural and Veterinary Entomology in Gainesville are working with an ant-infecting virus called *Solenopsis invicta* virus-1, or SINV-1. They have found it to occur in about 20 percent of red imported fire ant fields, where it appears to cause the slow death of infected colonies. The SINV-1 virus is the first virus to be recovered from red imported fire ants. In the laboratory, SINV-1 has proven to be both self-sustaining and transmissible. Once introduced, it can eliminate a colony within two to three months. That's why the researchers think it has potential for cultivation and development into a viable biopesticide for controlling *S. invicta*. Cooperators are being sought to develop methods for growing and packaging the virus

commercially, and for applying it under field conditions. (ARS News, 4/17/07).

- The oomycete *Phytophthora capsici* is the plant pathogen responsible for Phytophthora blight, a devastating disease of bell pepper, cucumber, pumpkin, and related crops occurring worldwide. This pathogen caused major losses in Florida vegetable production during the past decade, especially on bell pepper and summer squash. UF/IFAS researchers studied the survival of the oospore during two separate years of study under three different soil treatments: soil solarization, soil fumigation with methyl bromide-chloropicrin (67:33), and a non-treated soil control. No *P. capsici* was detected in the fumigated treatments during any sampling date. In both the solarization and non-treated soils, viable *P. capsici* was detected at all sampling periods. However, populations of *P. capsici* were lower in the soil solarization treatments than in the non-treated soil. These data indicate that oospores of *P. capsici* have the potential to survive for at least a year in Florida farming soils and may serve as initial inoculum for future Phytophthora blight outbreaks. (*Plant Disease*, Vol. 91 No. 5, May 2007).
- An unusually durable fungus that was first spotted on tiny insects feeding on eggplants in Texas may become a new biological control for the widespread and costly whitefly. The fungus was first isolated by USDA entomologists at the ARS Beneficial Insects Research Unit, Weslaco, Texas. The new fungal species has been named *Isaria propawskii*. In the Lower Rio Grande Valley of Texas, it has been shown to kill both larval and adult stages of silverleaf whitefly. In fact, since 2001, it has periodically wiped out whiteflies at the ARS insect-rearing facilities in Weslaco. Notable aspects of *I. propawskii* include its natural establishment in a semiarid region where temperatures can reach 107 degrees Fahrenheit and its continuing persistence, even in the absence of insect hosts. A high spore production in common culture media makes this fungus comparatively easy to grow *in vitro* in the laboratory. These features, plus its high pathogenic potential against a second major insect pest - the glassy-winged sharpshooter, *Homalodisca vitripennis* - make the fungus a promising candidate for practical biological control of two major U.S. farm pests. (ARS News, 5/11/07).

Powdery Mildew of Watermelon

With drier weather this last season or two, we might expect to see less disease. However, dry weather is when we typically see powdery mildew of watermelon. Since drip irrigation is more common and the weather has become drier, we have seen less gummy stem blight and more powdery mildew.

Powdery mildew of watermelon appears differently than the abundant white powdery mildew we see on other cucurbits (e.g. squash, cucumber) or other plant species. It does produce the white powdery fungal growth, but it is MUCH MORE subtle. You may not even see it unless you use a hand lens or magnifying glass, or stereoscope. For those with microscopes, the typical chains of clear, blocky spores are present.

The symptoms of powdery mildew that were seen in North Florida this past season were typical of this fungal disease. A bronzing coupled with mild yellowing (almost like a mosaic symptom from a viral disease but not as deep yellow) appeared on the leaves typically near the center of the crown (stem) of each plant. Look for the white powdery growth on the upper or lower sides of the leaves. Eventually the affected areas of yellowing and bronzing will die and appear brown to dark brown.

The only control for this powdery mildew is the use of fungicides. The ones that work are chlorothalonil

(Bravo, Equus, Applause, Echo; **not to be used after fruit set**), azoxystrobin (e.g. Quadris, Heritage, Quadris Opti [**with chlorothalonil**], Amistar, Pristine, and Flint. (email communication, Dr. Tom Kucharek)

Weed Control Strategies after Methyl Bromide

The pending loss of methyl bromide initiated research into alternative methods of controlling the many pests that are now controlled by the fumigant, including weeds. In operations where methyl bromide is used under mulch, there are still weeds that escape in the row middles and alternative weed management practices are needed to reduce the population of certain weed species. A major weed escape is nutsedge. In addition, there is no single broad spectrum alternative soil fumigant that is as affective as methyl bromide in weed control. Methyl bromide has allowed growers to plant monocultures of a single vegetable, season after season. This has led to weed shifts. Double cropping on the same mulch has slightly reduced the weed shifts, but double crops such as cucurbits or crucifers has not contributed much to the weed control due to the lack of herbicides labeled on those crops.

Rotation Producing alternative crops in rotation is a tried and true method of eliminating weed shifts and can reduce hard to control weeds in one crop by the use of selected labeled herbicides in a previous crop. Nutsedge can be reduced significantly in beans and sweet corn with the use of both pre emergent and post emergent labeled herbicides. This is true with these and other crops in the control of other serious weed problems in fruiting vegetables, such as nightshade and pigweeds (amaranths).

Fallowing .Another alternative strategy is fallowing. Fallowing in Florida is a summer fallow in most of the state. Fallow treatments to control weeds can be mechanical, chemical, biological or cultural. One cultural method is flooding as is accomplished in the Everglades Agricultural Area (EAA). Some biological agents have been identified to control weeds, but these are species host specific and do not perform well under a wide range of conditions. Mechanical tillage is the oldest and most common form of fallowing. Until recently, it was considered to be the least expensive weed control method.

Mechanical tillage is very effective in reducing a large percent of many annual weeds in the soil weed bank. Destroying emerged weeds and then allowing others to germinate and emerge and then destroying them is very successful. There is a draw back to only using disking for fallowing if there are certain perennial weeds in the field. Certain weeds such as torpedo grass, Bermuda grass, and spiderworts can be spread by cutting with sections rerooting. Research has also shown that nutsedges are not significantly reduced by tillage alone.

Chemical fallowing is another method that has been used successfully in reducing weeds in a field. The standby method has been the use of glyphosate. Glyphosate is a non-selective systemic herbicide that has no residue in the soil. The use of glyphosate followed by disking to allow new weeds to emerge and a second spray has been used successfully in reducing weeds and reemerged crop plants in the field before the next season.

Several questions have been raised on chemical fallowing: 1). Does a disking need to be done between applications? 2). Will the addition of another herbicide, such as halosulfuron enhance nutsedge control and some control of other broadleaves? 3) Will incorporating a pre emergent herbicide in the spray mix enhance the control? A graduate student at the University of Florida (Teddy McAvoy) is working with

2007 Tomato Institute Program
Wednesday, September 5, 2007
Ritz Carlton, Naples, FL

Moderator: Alicia Whidden, Hillsborough County Extension Service, Seffner

- 9:00 **Welcome** - Joan Dusky, Associate Dean & Professor, UF/IFAS Extension, Gainesville
- 9:10 **State of the Industry** - Reggie Brown, Florida Tomato Committee, Maitland
- 9:20 **CUE and Fumigant Assessment Update** - Mike Aerts, FFVA, Maitland
- 9:40 **Critical Issues for the Tomato Industry: Preventing a Rapid Postharvest Breakdown of Fruit** - Jerry Bartz, UF/IFAS Plant Pathology Department, Gainesville
- 9:50 **Food Safety Update and TGAP Program** - Martha Roberts, UF/IFAS, Tallahassee
- 10:20 **Results of Latest BMP Trials** - Monica Ozores-Hampton, UF/IFAS, SWFREC, Immokalee
- 10:50 - **Recent Developments and Release Outlook from the University of Florida Tomato Breeding Program** - Jay Scott, UF/IFAS, GCREC, Balm
- 11:10 **Western Flower Thrips: on the Move?** - Joe Funderburk, UF/IFAS, NFREC, Quincy
- 11:30 Lunch

Moderator: Phyllis Gilreath, Manatee County Extension Service, Palmetto

- 1:00 **Got Gas? Keep it Under Wraps** - Jim Gilreath, PhytoServices, Myakka City
- 1:20 **Whitefly Resistance Update** - Dave Schuster, UF/IFAS, GCREC, Balm
- 1:40 **Small Viruses That Cause Big Problems in Tomatoes** - Jane Polston, UF/IFAS, Plant Pathology Department, Gainesville
- 2:00 **Industry New Product Updates** - TBA
- 3:00 Adjourn

RUP and CCA CEUs will be available.

experiments at 3 locations around the state to hopefully answer these questions. In the years to come,