# Berry/Vegetable Times

## May 2006

UNIVERSITY OF FLORIDA
IFAS EXTENSION

### 2006 Calendar of Events

**June 4-6 Florida State Horticultural Society Annual Meeting , Tampa Marriot Westshore, Tampa, Fl. For more information go to: http:// www.fshs.org/.**

**June 13 Pesticide License Testing. Hillsborough County Extension Office, Seffner. 9 am. For more information call Mary Beth Henry, 813-744-5519, ext 103.**

**June 14 Vegetable & Agronomic Crop BMP Manual Regional Sign-up Meeting,**
**GCREC, Balm, 10:00. For more information see the program in newsletter.**

**July 11 Pesticide License Testing. Hillsborough County Extension Office, Seffner. 9 am. For more information call Mary Beth Henry, 813-744-5519, ext 103.**

**July 19 WPS Train the Trainer, 1:30 pm to 4:30 pm at Hills. Co. Extension Office, Seffner. Call Alicia Whidden 813 744-5519 ext. 134 for more information.**

**A monthly newsletter of the University of Florida IFAS**
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## BMP Regional Meeting for Strawberry and Vegetable Growers

Alicia Whidden

On June 14th a regional Vegetable BMP Sign-up Meeting will be held at the Gulf Coast Research and Education Center auditorium at 10:00 am. Growers will learn about the BMP program and its impact on their farms. Regulatory issues and the practical side of nutrient and irrigation management will be discussed. The BMP manual will be given out and the actual process of signing up for the program will be covered. Technical assistance that is available to growers will also be discussed. An agenda for the program is included in this newsletter.
This is a very important meeting for all farm operations to attend. Early compliance is critical to the future of farming in Florida.

For more information, contact Alicia at 813-744-5519, ext.134 or ajwhidden@ifas.ufl.edu.

## Integrated Strategies of Sting Nematode Management: What Growers Should Now be Considering!

J.W. Noling, Alicia Whidden, and Phyllis Gilreath

The strawberry season has again concluded, and as in years past, sting nematode was a significant problem in many fields, including a number of fields where sting nematode had never been detected before, even after field survey and soil analysis in a previous research study, were unfortunately discovered this past season. We do not claim to understand how or why this happens, although it is noteworthy that a change in management and cropping practice was observed for some. One of the new sting nematode discovery's this pastseason, and what we were actually pleased to learn, turned out to be the strawberry research fields at the UF / IFAS Gulf Coast Research & Education Center in Balm. Sting problems

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## WPS Do's and Don'ts

Phyllis Gilreath and Alicia Whidden

Based on the WPS road shows and observations/questions received since then, here are a few things to keep in mind relevant to compliance with the WPS.

- Do not put the WPS posting sign at the front gate to your farm. This implies that the entire farm is under an REI which may not be the case. You need to be posting by treated blocks.

- Central location information has to be posted in an accessible location for employees. This consists of the large WPS poster and application information. Since most farms do not have a fax machine, some growers have found it time consuming to write all the required information for each application. A "short cut" is to have an index sheet there with your application information that contains an alphabetized list of all the chemicals you use, the active ingredient, EPA registration number, REI, the licensed applicator's name and license number (if this is the same person all the time), etc. (Chemicals with different manufacturers or different formulations would still have to be listed separately.) This way you will not have to duplicate it for each application. Your daily sheets would then only need to include the name of the chemical, the date and location of the application and when it is safe to re-enter.

- If you are using a tank mix of products in an application, list all ingredients and base the re-entry time on the material with the longest REI.

- What if a large farm is split by a dirt or paved road? Do you need more than one central location? When we posed this question to inspectors we were told that one central location would suffice as long as it was contiguous property directly on each side of the road. They did recommend having a sign on one side indicating that the central location was on the other side and include this information in your worker/handler training; however, it is not that difficult to post in two places with application information on each side pertinent to that side.

- A question also came up about the legality of soap products for use in Silverleaf Whitefly control. According to FDACS Enforcement in Tallahassee, a soap that does not make a pesticidal claim is not regulated by them. Food safety auditors, however, may have a different interpretation so you need to ensure this is not a problem.

- Why do you have to have decontamination supplies available for 7 days for products with 4 hour REIs, but 30 days for products with REIs longer than 4 hours **or with <u>no</u> REI**? This is because when the WPS went into effect back in 1992, some products either did not have REIs established or it was not reflected as such on the label. Those with no REI on the label are either older products or have not gone through the newer data assessments and reviews. As time goes on, this should no longer be an issue.

- Inspectors now must issue a fine for failure to provide pesticide safety training, failure to comply with restricted entry intervals, failure to post treated areas to prevent early reentry, and failure to provide the essential personal protective equipment to

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workers or handlers. This fine is not just a flat rate of $250 but is $250 multiplied by the number of workers involved in each infraction.

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were severe, suggesting that this new research facility will provide excellent opportunity to study sting nematode biology and pest management.

Although harvesting operations may be over and sights are now turned toward other activities, now is not the time to forget about sting nematode management. It is painfully apparent that sting nematode management cannot exclusively rely upon methyl bromide. to satisfactorily resolve the problem. What previous research has clearly demonstrated is that a year long, multi-tactic, integrated strategy is necessary to manage sting nematode. One of these tactics which should be immediately considered is rapid destruction of the strawberry crop immediately after harvesting is complete. Even though the irrigation is off and plastic pulled, strawberry plants continue to survive upon rainfall, providing food supply for continued reproduction of sting nematode. Delays in destruction of the crop thus result in higher soil density of the nematode, increased difficulty of control, and potential for greater losses in any subsequent crop. This past season we were pleased to observe the benefits of killing last years strawberry crop with a post season drip application of metam sodium (vapam; 75 gal/a) before we removed the plastic, drip tape, and disked the field. Whether a post season crop destruction chemical is used or not, the field should be disked as soon as possible after the picking season to expose nematodes to the killing action of sun and wind.

Off season weed management is another critical element of the overall sting nematode management plan. We have repeatedly demonstrated the hosting ability of various grasses, broadleaves, and leguminous weeds when allowed to grow and proliferate in sting nematode infested fields over the spring and summer months. The list of weeds which host sting, continues to grow like the weeds in the field. A new winter weed becoming increasingly important to strawberry crop growth and production, Black Medic (*Medicago lupinus*), was added to the excellent host list for sting nematode this spring. In another study this past summer, we were not able to demonstrate a meaningful reduction in sting nematode populations and crop impact when weed growth was excluded for a 6 to 7 week period during July and August. The results of this study suggest that longer weed-free (food-free) periods are required to starve sting nematode. At this point, we would still highly recommend that if the field is to be fallowed until land preparation for the next strawberry crop, that it be periodically disked to minimize weed growth and soil density of sting nematode.

Finally a few comments about sting nematode management, methyl bromide, and the chemical alternatives. This will be the second year in which methyl bromide will be made available to strawberry growers for soil fumigation use as a result of an international approval of a Critical Use Exemption (CUE). Each year the approved amount (as a proportion of 1991 baseline level) continues to decline. This year, the 2006 CUE allowance consist of 29% new production and another 5% coming from any existing supplies. A sales representative of a major gas distributor indicated in a recent meeting that there appears to be a lack of existing stocks compared to previous years. When thinking about acquiring methyl bromide for fall use, the lack of existing supplies concerns us and it should concern you. Since methyl bromide price is generally considered to be a direct function of supply and demand, we would strongly encourage growers to prepay gas distributors to

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acquire the best price and to ensure delivery of adequate gas quantities this fall. Since we see so little use of alternatives, we would also strongly encourage growers to considered broader use and evaluation of alternatives such as Telone C35. With the continued depletion of existing supplies and diminishing levels of approved CUE levels, we believe it is time growers finally gain working experience with the alternatives, identify any shortcomings and define any other mangement practices required to achieve equivalent pest control.

It also seems clear to us that new EPA regulatory decisions regarding the reregistration of the alternative fumigants (metham sodium, chloropicrin, methyl iodide, dazomet, and others) is expected to pose new problems and product label constraints such as mandatory requirements for reduced application rates, additional personal protective equipment, and expanded buffer zones between agriculturally treated and urban area ie., occupied structure. If true, this scenario in itself mandates a more intensive, overall evaluation of new alternatives and reduced rate fumigant application technology on the part of growers. As a result, we would also highly encourage growers to identify plastic mulch distributors with products such as high barrier / virtually impermeable plastic mulches (VIF) which restrict rapid gas movement through the mulch and allow significant rate reductions to occur without compromise of crop yield or pest control efficacy.

Finally, and based on recent field research by Dr. Jim Gilreath, successful use of VIF involves more than just reducing gas flow and laying the more gas impermeable mulch film. Reduced rate applications requires a new level of sophistication and application technology, such as balancing gas flow between chisels by ensuring sufficient back pressure on each gas delivery line by reducing line size or use of orifice plates. These are but a few new considerations and equipment modifications required to use VIF and reduced rates of methyl bromide or any other fumigant. We would encourage growers to address these issues well in advance of the strawberry fumigation season beginning in August.

## Asian Cockroach Eats Strawberry Seeds

Jim Price

There are several insects associated with Florida strawberry fields that remove strawberry seeds and eat the soft inner tissues. Most are black, carabid beetles. This season there was a problem with the Asian cockroach (Figure 1) in the GCREC fields and greenhouses removing seeds and eating the contents.

This insect was first discovered in the US in nearby Lakeland, Florida in 1986. It wasn't long before they were associated with strawberry culture, but only now is the seed damage being recognized. The cockroach pulls seeds from fruit, opens the seed covers, eats the contents, and forms a neat pile of split seed covers under the fruit. This season, the damage was extensive in GCREC fields and even in greenhouses. It is not known if consumers can detect the de-seeded fruit to form an objection. The problem can be huge though to our breeder, Craig Chandler, who depends on seeds to bring the industry new varieties.

*Figure 1. Adult Asian cockroach.*

The Asian cockroach looks much like our small German cockroach, but is much more prone to fly. It is sometimes called the "flying cockroach". It is the cockroach that Floridians may see abundantly among leaves and mulch in their yards and gardens. It is not commonly found in homes.

We do not yet know at what levels, if at all, the cockroach needs to be controlled in the field situation nor do we know best methods. We are studying the problem at the GCREC and will provide new information as it develops.

Information about this insect around homes is provided in an excellent publication available on UF IFAS EDIS at http://creatures.ifas.ufl.edu/urban/roaches/asian_cockroach.htm

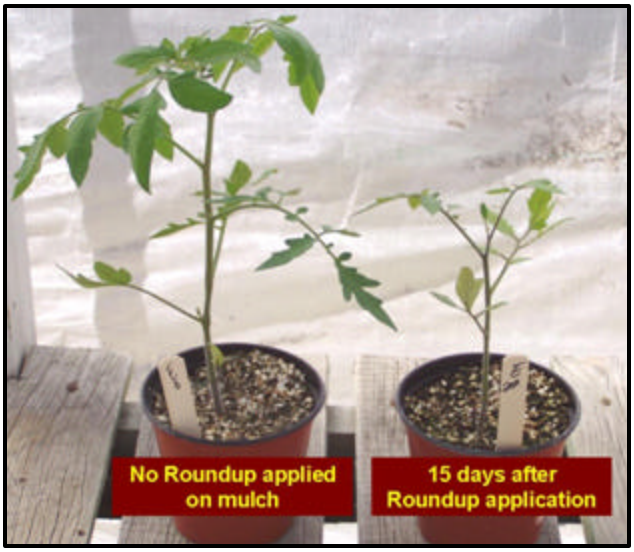
## How Long Can Roundup® Residues Stay on Plastic Mulch?

Bielinski M. Santos and James P. Gilreath
GCREC, Horticulture and Weed Science

Glyphosate is the most used herbicide in the world, and it is commercially sold as Roundup®, Rodeo®, Accord®, Glyphomax®, Rattler®, Touchdown®, among other brand names. This is a non-selective herbicide that is sprayed on bed-tops before the crop is planted and in row-middle applications. The latter is widely used in polyethylene-mulched vegetables, strawberries, and ornamentals. In double-cropped cucurbits (e.g. cucumber, squash, zucchini, cantaloupe, etc.) after strawberries, glyphosate is applied to kill green foliage before planting the second crop.

The label of this herbicide indicates that it has no soil activity and it is rapidly broken down by microbes. However, injury symptoms have been reported in situations where glyphosate has been applied on polyethylene mulch before crop transplanting. There is no information on whether the herbicide is deactivated by sunlight (called photodegradation) on plastic mulch and on how long this process takes. Therefore, studies were conducted to determine the extent of photodegradation over varying sunlight and humidity exposure periods.

To achieve that objective, tomato was used as the test crop and black low-density polyethylene film was sprayed with a labeled rate of 1 lb of glyphosate/acre. Sunlight-exposure times were 0, 1, 2, 3, 4, 5, 7, 9, 11, 13, and 15 days after application. No rainfall or sprinkler irrigation occurred during the trial. The results indicated that 15 days after application, there was still enough glyphosate to significantly reduce tomato growth by 70% (see picture), which suggests that glyphosate breakdown takes more that 2 weeks when applied on the polyethylene mulch, especially if no rainfall or sprinkler irrigation has been used to wash the herbicide away. This is particularly important from the grower's standpoint, since it is a common practice transplanting the crop shortly after glyphosate application.



## Chemically Speaking
### Pesticide Registrations and Actions

?? The FDACS has requested the use of the fungicide Topsin M® (thiophanate) for control of white mold on fruiting vegetables (tomato, pepper, eggplant) under section 18 of FIFRA. *(FDACS letter to EPA dated 2/14/06).*

?? Based on a request by BASF Corporation and IR-4, tolerances are approved for use of the fungicide boscalid (Endura®/ Pristine®). Tolerances of importance to Florida include celery, spinach, and leafy vegetables (group 4) except lettuce. *(Federal Register, 2/8/06).*

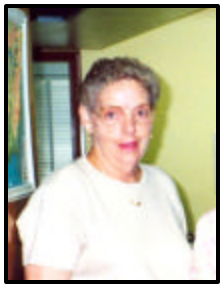
?? In mid-February, OmniLytics, Inc., announced final EPA registration for its AgriPhage bacteria control product line. The material can be used in the greenhouse or field, and can be used as a preventative as well as a curative treatment. At a current price of $12/pint, a recommended treatment (two pints) equates to a treatment cost of $24/acre. It is approved for use in tomato and pepper.

**AgriTech 2006**
**August 29th and 30th**
**New Location for 2006**

This year's event will be at the new Hillsborough Community College (HCC) auditorium, also known as the John R. Trinkle Building 1206 N. Park Road, Plant City.

For information and details, call the Florida Strawberry Grower's Association (813) 752-6822. A registration form can be found online at www.straw-berry.org/documents/Agritech06.pdf

## Retired GCREC-Dover Staffer, Annie Turgeau, Dies at 75



Craig Chandler, Alicia Whidden, and Jim Price

Annie (Anne) Turgeau, who worked for the GCREC-Dover "strawberry lab" for 30 years (1969 - 1999) died on May 10, 2006. By making a career in the area of strawberry research and education, Anne followed in her father's footsteps. Her father, George Strickland, worked for the lab from 1948 until retiring in 1971.

Anne was the classic girl Friday. The lab's staff was small, and resources were limited for most of Anne's career, so she worked wherever help was needed, whether it was answering the phone, doing data calculations, typing manuscripts, or working in the field or grading room.

Anne had a passion for strawberries, and was on a first name basis with most of the Dover-Plant City strawberry growers. Anne is survived by her three children, Michelle, Karen, and Maurice, and four grandchildren, James, Stacy, Sarah and Samantha. Michelle, Maurice, and Samantha are carrying on the family tradition of working in the strawberry industry. Michelle (Williamson) is the Director of Human Resources for G & F Farms, LLC and Dover Fresh Produce, LLC, Maurice is the managing partner of Berry Bay Farm of Wimauma, and Samantha (Williamson) is a Strawberry Ambassador for the Florida Strawberry Growers Association.

Over the years of Anne's tenure at the lab, many employees came and went, including high school, college, and graduate students. Anne had a special ability to make new employees feel welcome and part of the lab family. She often treated her co-workers and friends to her famous strawberry pizza. She will be greatly missed.

# Vegetable & Agronomic Crop BMP Manual
# Regional Sign-up Meeting
# June 14, 2006
# 10:00 a.m.
# Gulf Coast Research & Education Center Auditorium
# Balm, Florida

**10:00 Welcome, Introductions**
*Alicia Whidden, Vegetable Agent, Hillsborough County Extension Service*

**10:05 UF/IFAS Research & Extension Role in BMP Development & Verification**
*Dr. Joan Dusky, Associate Dean for Extension, UF/IFAS Gainesville*

**10:15 Best Management Practices: Statutory Benefits of Implementation**
*Bill Bartnick, Environmental Administrator, Florida Dept. of Agriculture, Tallahassee*

**10:30 Overview of Nutrient and Irrigation BMPs**
*Eric Simonne, Associate Professor, Horticultural Sciences Dept., UF/IFAS, Gainesville*

**10:45 Implementation Procedures for Vegetable & Agronomic Crop BMP Manual**
*Bill Bartnick and Eric Simonne* (Handout and Manual)

**11:40 Virtual Grower Notice of Intent Sign-Up**
*Dale Calhoun, Policy Analyst, Florida Dept. of Agriculture, Tallahassee*

2 CCA Credits available.

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