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FUNDING OPPORTUNITIES

• NIFA CROP PROTECTION AND PEST MANAGEMENT COMPETITIVE GRANTS PROGRAM

The RFA for NIFA's new Crop Protection and Pest Management (CPPM) grants program was released yesterday - see below and

<http://www.nifa.usda.gov/fo/cropprotectionandpestmanagemet.cfm> for more information.

The turnaround time is very short, with a **19 June deadline for receipt of full applications**. This new program consolidates most former USDA IPM grants programs such as PMAP, Extension IPM Implementation, IPM Centers, etc. Note the May 22 briefing on this RFA (see end of e-mail).

The purpose of the Crop Protection and Pest Management program is to address high priority issues related to pests and their management using IPM approaches at the state, regional and national levels. The CPPM program supports projects that will increase food security and respond effectively to other major societal challenges with comprehensive IPM approaches that are economically viable, environmentally sound and will help protect human health. The CPPM program addresses IPM challenges for emerging issues and existing priority pest concerns that can be addressed more effectively with new and emerging technologies. The outcomes of the CPPM program are effective, affordable, and environmentally sound IPM practices and strategies supporting more vital communities.

The amount available for this program in FY14 is approx. \$16.3 million to fund three different project types:

1. Applied Research and Development Program Area (ARDP)

- Project Period – Two to four years
- Budget – Awards must not exceed \$250,000 per project (\$125,000 if PDs only from one state)
- Depending upon project budget requests, NIFA anticipates making in the range of 15 to 30 awards
- Purpose – To enhance the development and implementation of innovative, ecologically-based, sustainable IPM tactics and strategies that address regional and/or national IPM priorities. Can be either applied research (single-function), research-led, or extension-led.

2. Extension Implementation Program Area (EIP)

- Project Period – Three years
- Budget – Awards must not exceed \$900,000 per project. LIMITED TO ONE APPLICATION PER INSTITUTION
- Depending upon project budget requests, NIFA anticipates making in the range of 30 to 60 awards
- Purpose – To assure the implementation of IPM through extension activities and coordination with other EIP grantees and other CPPM program areas based on defined state, multi-state, regional, national, or international needs.

3. Regional Coordination Program Area (RCP)

- Project Period – Four years
- Budget – Awards must not exceed \$4,000,000 per project
- NIFA anticipates making one RCP award for each of the agency's four administrative regions: North Central, Northeastern, Southern, and Western (see the state and territory listing by region at the end of Part I on page 25)
- Purpose – To increase coordination and improve efficiency of IPM research and extension efforts; facilitate collaboration across states and disciplines; and promote further development and adoption of IPM through regional pest management information networks, collaborative team building and broad-based stakeholder participation.

NIFA conducted a briefing of the FY 2014 CPPM Competitive Grants Program RFA on Thursday, May 22, 12:30-2:00 p.m. Eastern Time. A recorded copy of the briefing is available at:

http://www.nifa.usda.gov/funding/cppm/cppm_info.html

This is an excellent funding opportunity, and the CAES grants support team, consisting of the Grants Coordinator, the respective Assistant Deans, and the CAES Sponsored Programs Office are ready to assist with proposal development. Please contact them at grants@uga.edu if you need help.

UPDATES FROM EPA

• EPA SOLICITING COMMENTS ON PROPOSED AGRICULTURE WORKER PROTECTION REGULATION FOR PESTICIDES

The Environmental Protection Agency (EPA) has recently proposed reviews to the Worker Protection Standard for Agricultural Pesticides to add new safety measures to protect U.S. farm workers from pesticide exposure. On March 19, EPA announced that it is seeking public comments regarding these proposed revisions.

SUMMARY:

EPA is proposing updates and revisions to the existing worker protection regulation for pesticides. The proposed changes are in response to extensive stakeholder review of the regulation and its implementation since 1992, and reflect current research on how to mitigate

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occupational pesticide exposure to agricultural workers and pesticide handlers. EPA is proposing to strengthen the protections provided to agricultural workers and handlers under the worker protection standard by improving elements of the existing regulation, such as training, notification, communication materials, use of personal protective equipment, and decontamination supplies. EPA expects the revisions, once final, to prevent unreasonable adverse effects from exposure to pesticides among agricultural workers and pesticide handlers; vulnerable groups, such as minority and low-income populations, child farmworkers, and farmworker families; and the general public. EPA recognizes the importance and independence of family farms and is proposing to expand the immediate family exemption to the WPS.

Comments are due **by June 17, 2014**. Additional information on the proposed revisions and directions for submitting comments are available at:

<https://www.federalregister.gov/articles/2014/03/19/2014-04761/pesticides-agricultural-worker-protection-standard-revisions/>

AWARDS AND HONORS

TIFTON CAMPUS 2014 AWARD OF EXCELLENCE – SENIOR RESEARCH SCIENTIST

Dr. Glen Rains, Professor in the Department of Entomology was recently recognized with the Tifton Campus 2014 Award of Excellence – Senior Research Scientist.

Congratulations!



FROM THE FIELD

INSECTICIDE RESISTANCE MONITORING

David Riley

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One of the biggest challenges that face vegetable growers these days is when the effective pesticide that you have relied on for years to control a key pest in your crop suddenly starts to fail. This can be a gradual process, with the product slowly losing efficacy over time, or it can become apparent very rapidly, within the same growing season. One insect pest that can be considered the “poster child” for insecticide resistance is the diamondback moth (DBM). This is a serious pest of cabbage and greens when resistance causes outbreaks (Photo below).

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The only way to know for sure that you have diamondback moths that are resistant to a particular insecticide is to conduct basic toxicological studies to measure the mortality response of the insect to a wide range of insecticide concentrations. The concentration that is considered when making comparisons between populations of insects is the Lethal Concentration 50 or LC50. Statistical probit analysis is used to estimate LC50 values which represents the concentration required to kill 50% of the population being tested. Once you establish this for an insecticide-susceptible laboratory colony, then these values can be used as a “bench marks” with which to compare DBM field populations into the future. The project funded by Georgia Commodity Commission for Vegetables in 2011-2012 helped to establish several DBM colonies at the UGA Tifton Campus and provided the following baseline LC50 values for the following insecticides. Now, we have a way to measure if the susceptibility of our DBM populations is changing and can take specific resistance management actions to limit this. We are currently facing the possibility of diamide insecticide resistance in DBM in the SE USA.



Insecticide-DBM population	Year collected	Hour reading	LC50 mg ai/liter	95% Fiducial limits	Log10 (Dose_mg/l)
Radiant -Riley laboratory	2012	48	0.016	0.00-0.86	0.87±0.37
MustangMax -H. Hill Farm	2012	72	82.5	41-151	1.27±0.18
Coragen -Riley laboratory	2012	48	0.730	0.00-4.0	1.05±0.50
Verimark -- H. Hill Farm	2013	72	0.190	0.13-0.29	1.19±0.19

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WHITEFLIES AND WHITEFLY-TRANSMITTED *TOMATO YELLOW LEAF CURL VIRUS* IN TOMATO IN GEORGIA

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Tomato yellow leaf curl virus (TYLCV) was first documented in 2001 in Georgia in Tift, Colquitt, and Grady counties. The virus was believed to have been introduced from Florida and for the next few years the incidence remained low and did not cause serious economic losses to tomato production. However, in 2008 and 2009, the situation changed. A severe incidence of TYLCV was identified in several tomato fields in numerous counties, including Macon County. The exact reasons for the observed spike in TYLCV remain unclear.



Fig1 (left). TYLCV infected tomato plant displaying stunting, yellowing, and curling of leaves; Fig2 (center). A close-up tomato leaves displaying TYLCV symptoms; Fig3 (right). Adults and immatures of sweet potato whitefly.

We began to conduct research in the spring of 2009 to document whitefly populations and subsequently monitor TYLCV spread in major tomato producing counties Tift, Colquitt, Grady, Mitchell, and Thomas. Weekly samples were collected from April through October. Distribution of whiteflies and TYLCV incidence is illustrated below.

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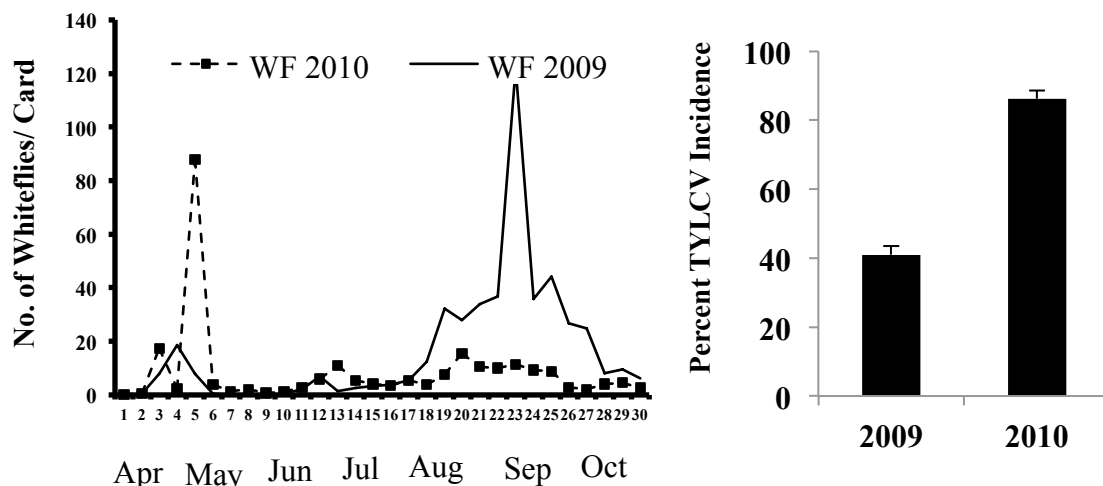


Fig4(left). Whitefly counts on sticky cards collected at weekly intervals over two years in five counties. **Fig. 5(right).** TYLCV incidence in tomato (FL-47) in Tifton UGA (one location).

These studies indicated that the whitefly population patterns varied from year to year. In 2009, there were more whiteflies trapped than in 2010. The distribution was also clumped indicating that the time of the year and the crop hosts available in the area can influence whitefly populations. The present data supports the occurrence of short-distance dispersal than long-distance migration. Growing whitefly-preferred hosts nearby tomato fields can impact the incidence of TYLCV. TYLCV incidence ranged from 45-90% in a single location in Tift County indicating that under favorable conditions TYLCV can severely impact tomato production.

The most effective management option currently available is resistant cultivars. A number of resistant cultivars such as Tygress, Shanty, Security, Inbar, and others are available and a number of others are in the breeding pipeline. Despite their availability, their horticultural characteristics are often not as good as susceptible cultivars such as FL-47 and Amelia, which produce fruits with desirable characteristics. Also, there are no resistant cultivars available for cherry-type tomato. Two years of field studies were conducted to assess how these resistant cultivars performed in the presence of high whitefly and TYLCV pressure. Field trials were conducted at the Horticultural farm in Tifton campus, UGA.

It should also be brought to notice that the TYLCV symptoms in the trial were monitored visually. However, further testing in the laboratory with molecular techniques indicated that the resistant cultivars were also infected with TYLCV, but, did not show any visual symptoms. Resistant cultivars can thus be very useful in the presence of high whitefly and TYLCV pressure and may be the only sustainable option under such circumstances. In the presence of severe pressure the entire crop may be lost if susceptible cultivars are planted.

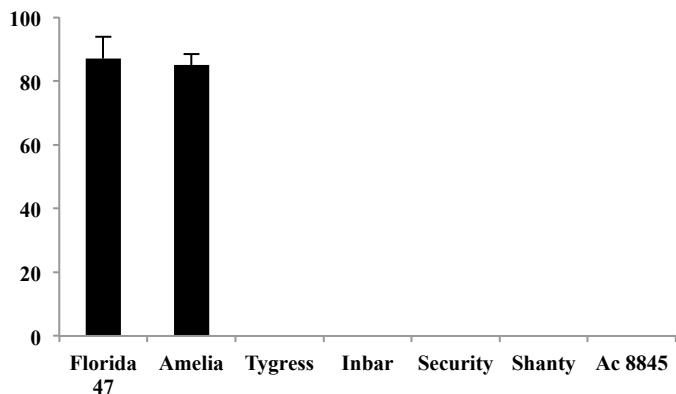


Fig. 6. Percent TYLCV incidence in fall 2010 in tomato cultivars in a Tift County field trial. Notice that FL-47 and Amelia were severely affected by TYLCV when compared to other resistant cultivars (Tygress, Inbar, Security, Shanty, and AC8845). Similar results were noticed in 2009.

Growers may still prefer to plant susceptible cultivars due to the desired fruit characteristics. Extreme care must be taken while attempting to plant susceptible cultivars, especially under high pressure scenarios. Viruliferous whiteflies can transmit the virus in as few as five minutes of feeding. Thus, many of the currently available insecticides are incapable of preventing the transmission of TYLCV. Repeated use of commonly available insecticides may also lead to development of resistance. In Florida, whiteflies have already developed resistance to the commonly used insecticide class, neonicotinoids (imidacloprid and thiamethoxam). However, there are a number of new insecticides that have been released into the market with unique feeding disruption abilities and may subsequently be useful in preventing TYLCV transmission. We are currently investigating the usefulness of several of these insecticides and their efficacy in preventing TYLCV transmission. More greenhouse studies are currently being conducted to address this issue at the vector biology laboratory, Tifton Campus, UGA.\

UPCOMING EVENTS

May 28 UGA Sets Pollinator-Attracting Container Garden Workshop in Griffin

A butterfly and container garden workshop will be offered Wednesday, May 28 from 9 a.m. until noon at the University of Georgia Research and Education Garden off Ellis Road in Griffin. The workshop is based on research from the UGA garden and will be presented by experts from the UGA Center for Urban Agriculture. The topics will include garden friendly insects, plants for pollinators, pest control strategies and putting it all together. Participants will build a container garden to attract pollinating insects like bees and butterflies. The garden will also attract beneficial insects that naturally reduce the need for pesticides. The cost of the workshop is \$39 and includes instruction materials for

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the container garden and refreshments. For more information or to register, call (770) 228-7214 or email bhorne@uga.edu. Register online at <http://tinyurl.com/ugapollinatorworkshop>.

June 14 Baldwin County Progressive Farmers Club Meeting

Dr. Ash Sial UGA Blueberry Entomologist will attend the meeting and talk about current distribution, monitoring, and management of Spotted Wing Drosophila. If you are interested in attending this event, please contact Baldwin County Extension Coordinator, Robbie Jones (jonesr@uga.edu).

June 17 Blueberry Agent Training

Dr. Erick Smith will lead and several members of UGA Blueberry Team including Dr. Phil Brannen, Dr. Dan Horton, Dr. D. Scott NeSmith, and Dr. Ash Sial will participate in this training session for UGA Extension Agents working in blueberry producing counties. The agents will get hands on experience on aspects of blueberry production including horticultural aspects, and monitoring and management of insect pests and diseases. If you are interested in attending this event, please contact Dr. Erick Smith (ericks@uga.edu), Assistant Professor, Department of Horticulture, University of Georgia.

June 18 New Urban Pest Management Webinar Series

The University of Georgia's College of Agricultural and Environmental Sciences, in cooperation with the Digital Innovation Group at Georgia College, has developed a training program that allows pest management professionals to obtain continuing education credit on-line. Although anyone, anywhere may participate, pest management professionals in GA, FL, AL, SC, NC, and TN can obtain CEU/CCU credit from the comfort of their home or office. All you need is a computer with internet access, speakers, and a microphone (optional); no special software is needed. Logging on, watching a live, online presentation (called a webinar) on your computer, and then going back to work is just a few mouse clicks away.

Our next webinar is June 18, 8:00 to 9:00 am, by Mr. Elmer Gray, University of Georgia, Department of Entomology, on *Mosquito Biology, Surveillance, and Control*. CEU/CCU credit will be granted in GA, FL, AL, SC, NC, and TN. For a list of specific webinars or to register for the next webinar, visit www.gabugs.uga.edu.

How to Register. To register for an upcoming webinar, go to the webinar's website at www.gabugs.uga.edu and click on the "Webinar" link. After registration and payment (\$20 per person), you will be contacted by the Digital Innovation Group (DIG) with instructions on how to proceed. Should you have questions, or perhaps would like to receive email announcements about upcoming webinars, don't hesitate to contact me at 770-233-6114 or email me at dsuiter@uga.edu. Hope to see you on-line!
Dan Suiter, Department of Entomology, University of Georgia.

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Dear Readers:

UGA Integrated Pest Management Newsletter is a monthly journal for Researchers, Extension agents, Extension specialists, and others interested in pest management. It provides most updated information on legislation, regulations, and other issues concerning pest management in Georgia.

Do not regard the information in this newsletter as pest management recommendations. Consult the Georgia Pest Management Handbook and other Extension publications, or appropriate specialists for additional information.

Your input in this newsletter is encouraged. If you wish to be added to the mailing list, just call us at 706-542-1320.

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