

IN THIS ISSUE: Funding Opportunities | EPA Update | From the Field |
Upcoming Events

FUNDING OPPORTUNITIES

Small Business Innovation Research Program - Phase II

The U.S. Department of Agriculture (USDA) invites previous Small Business Innovation Research (SBIR) Phase I awardees to apply for Phase II funding under this program solicitation. Phase II awards are only provided to those Phase I awardees that meet the eligibility requirements of a Phase II project. To be eligible for a Phase II award, an applicant must have been funded by the USDA SBIR program as a Phase I project and have not previously applied for Phase II funding under this program. Projects dealing with agriculturally related manufacturing and alternative and renewable energy technologies are encouraged across all 2015 SBIR topic areas. USDA SBIR's flexible research areas ensure innovative projects consistent with USDA's vision of a healthy and productive nation in harmony with the land, air, and water. The closing date for the grant application is February 25, 2016. For detail information about the grant application and additional information, please visit the webpage:

<http://nifa.usda.gov/sites/default/files/rfa/FY16%20SBIR%20Phase%20II%20RFA.pdf>

2016 USDA-NIFA Biotechnology Risk Assessment Research Grants Program (BRAG)

NIFA requests applications for the Biotechnology Risk Assessment Research Grants (BRAG) Program for fiscal year (FY) 2016 to support environmental assessment research concerning the introduction of genetically engineered (GE) organisms into the environment. The anticipated appropriated amount available for NIFA to support this program in FY 2016 is approximately \$4 million. The purpose of the BRAG program is to support the generation of new information that will assist Federal regulatory agencies in making science-based decisions about the effects of introducing into the environment genetically engineered organisms (GE), including plants, microorganisms (including fungi, bacteria, and viruses), arthropods, fish, birds, mammals and other animals excluding humans. Letter of Intent (LOI) should be received by February 12, 2016 and applications must be received by April 15, 2016. Please visit the webpage: http://nifa.usda.gov/sites/default/files/rfa/16_BRAG%20RFA.pdf for the grant application, guidelines, and additional information.

extension.uga.edu

Beginning Farmer and Rancher Development Program (BFRDP)

NIFA requests applications for the **Beginning Farmer and Rancher Development Program (BFRDP)** for fiscal year (FY) **2016** to support the delivery of education, mentoring, and technical assistance programs to help beginning farmers and ranchers in the United States (U.S.) and its territories with entering, establishing, building and managing successful farm and ranch enterprises. The anticipated amount available for grants in FY 2016 is approximately \$18 million. The term “farmer” is used in the broadest sense and should be interpreted to include agricultural farmers, ranchers, and non-industrial private forest owners and managers. Applications from partnerships and collaborations that are led by or include nongovernmental organizations (NGOs), community-based organizations (CBOs), and school-based agricultural educational organizations (SAEOs) with expertise in new agricultural producer training and outreach will be given priority in funding. Detail information about this grant and application procedure is available on this webpage: <http://nifa.usda.gov/sites/default/files/rfa/FY16%20BFRDP%20RFA.pdf>. The deadline for the grant application is January 21, 2016.

Plant Feedstock Genomics for Bioenergy: A Joint Research Solicitation- USDA, DOE

The USDA's, National Institute of Food and Agriculture (NIFA), Institute of Bioenergy, Climate, and Environment (IBCE) and the Department of Energy's Office of Science, Office of Biological and Environmental Research (OBER) announce the interagency Program to support genomics-based research that will lead to the improved use of biomass and plant feed stocks for the production of fuels such as ethanol or renewable chemical feedstocks.

Please note that applicants will submit applications through DOE and a preapplication is requested rather than a letter of intent. To apply go to: http://science.energy.gov/~media/grants/pdf/foas/2016/SC_FOA_0001444.p

EPA UPDATE

Recently out in the Federal Register –

Tetrachlorvinphos is an organophosphate (OP) insecticide used to control nuisance pests (*e.g.* fleas and ticks) on domestic cats and dogs, in addition to livestock, their premises, kennels, poultry houses, barns, and outdoor perimeter treatments. EPA has completed a comprehensive draft human health and ecological risk assessment, including an endangered species assessment, for all tetrachlorvinphos uses.

Call for comment

https://www.federalregister.gov/articles/2016/01/20/2016-00849/tetrachlorvinphos-registration-review-draft-human-health-and-ecological-risk-assessment-notice-of?utm_campaign=pi+subscription+mailing+list&utm_medium=email&utm_source=federalregister.gov

EPA seeking public comment

On November 6, 2015, EPA announced the opening of a public comment period on the Agency's proposed rule to revoke all tolerances for chlorpyrifos. EPA has stated they will issue a final rule after considering the comments submitted during this period.

Why is EPA proposing to revoke US chlorpyrifos tolerances and why now?

The proposal is the outcome of a recent U.S. Ninth Circuit Court of Appeals order requiring EPA to respond to a 2007 administrative petition by PANNA and National Resources Defense Council (NRDC).

The Agency completed the FIFRA Section 4 reregistration and FFDCA tolerance reassessment for chlorpyrifos in 2006, and then has continued to assess chlorpyrifos through a priority registration review, issuing a Preliminary Human Health Risk Assessment in 2011, and a Revised Human Health Risk Assessment (RHHA) in December of 2014.

extension.uga.edu

The EPA has been working through the elements of the petition as part of the registration process, and as late as March of this year (2015) indicated that once it completed its formal evaluation of chlorpyrifos as part of this process, expected to deny the activist petition in its entirety

But, the Court order required EPA to respond before completing its formal health and safety evaluations as part of the establish registration review process. The proposed rule is based on concerns about potential exposures in drinking water based on preliminary, highly conservative modeling. EPA admits they are making this proposal before completing a more refined assessment and before fully considering and responding to comments from stakeholders submitted earlier this year.

Why does EPA need to hear your voice?

- EPA is specifically seeking comments on what tolerance or group of tolerances need to be retain by the growers and the agricultural community. If the need is not expressed now, EPA can revoke the tolerance(s) in a final ruling and chlorpyrifos would no longer be available for use on your crop.
- Commenting now is important or you lose your chance. EPA has stated that you must raise any issues now in order to then file any objections to a final rule.
- EPA has been pushed to proposing this rule without completing the established registration review process which is intended to provide a thorough, transparent and scientifically-credible assessment of risks and benefits for the pesticide tools relied on by growers.
- EPA is proposing the extreme action of revoking tolerance not in reaction to new, solid scientific information but on early-stage, theoretical modeling which is in stark disagreement with finding from real-world monitoring which show values well below regulatory standards for protection of health and safety. If allowed to be set as a precedent, many important tools relied on by growers beyond chlorpyrifos will be at risk by such an approach to regulatory decision-making.

How to submit a comment:

When submitting a comment, we recommend:

- Prepare your comment as a PDF and then simply use the upload file option on the docket site. This way you will retain a copy of your comment for future use and it is easier to load onto the site rather than to type on the site itself
- Do not include personal information such as email addresses or phone numbers – the information you post on a docket site is publicly viewable

The site for public comment is often extremely slow and you may encounter it being stuck “loading”. We suggest if the site does not load within a moment or two, cancel out and try again later. Off-hours are usually better if you encounter this problem.

Steps to submit your comment

1. You can go to www.regulations.gov and type in EPA-HQ-OPP-2015-0653 and hit search or use this link to go directly to the docket www.regulations.gov/#!searchResults;rpp=25;po=0;s=epa-hq-opp-2015-0653;fp=true;ns=true
2. It will list **Tolerance Revocation: Chlorpyrifos**: click on **Comment Now** (to the right)
3. This will take you to the page for you comment
 - a. **In Step 1: Your Information:**
 - a. You are required to enter something in this comment box.
 - b. If you are submitting a short comment, you can simply type in or paste in the box and include your name, title and affiliation
 - c. If you will be attaching a prepared comment and your name or affiliation is already on your comment, you may simply enter something such as “Comment attached in support of chlorpyrifos”

extension.uga.edu

- i. Then hit the upload file(s) link and attached your comment
 - b. At the bottom of this page there is a box for [I am submitting on behalf of a third party](#). Since this is your comment, **do not check this box**
 - c. Click on **Continue**
4. You will then see the page [Your Preview](#). Your comment and name of uploaded file will be shown.
 - a. There will be a notice that your information maybe publicly viewable on the web. You **must check** the *I read and understand the statement above* box
 - b. If you are ready to submit, click on **Submit Comment**
5. You will see [Your comment was submitted successfully](#)
 - You will be shown a receipt your **Comment Tracking Number**. Please copy this number for reference and follow-up in case your comment does not appear in the docket

FROM THE FIELD

Monitoring and Management of Blueberry Gall Midge

Ash Sial and Brian Little, Department of Entomology, University of Georgia

The reports of blueberry gall midge infestations in Georgia blueberries have become more common over the last couple of years. Blueberry gall midge, *Dasineura oxycoccana* (Johnson) (Diptera: Cecidomyiidae) was first identified as a pest of rabbiteye blueberries in the southeastern United States in early 1990s. Since then, gall midge has been confirmed as a pest of blueberries in major blueberry-growing states throughout the United States. The gall midge larvae feed on developing floral and vegetative buds in southern highbush and rabbiteye blueberries. The infested buds appear dry and shriveled, and eventually disintegrate. Severe gall midge infestations can cause up to 80% crop loss if appropriate control measures are not implemented in a timely manner.

Adults are very small and fragile flies, approximately 2-3 mm long (Fig. 1a). Adult flies have long slender legs, globular cylindrical antennae, and transparent wings with long black hair-like structures and reduced venation. Females lay eggs in floral or vegetative buds just after bud swell, as soon as scales of flower buds begin to separate and the tips of flowers become visible. Totally dormant buds are not infested. The adult stage probably lasts only for a few days (less than a week) during which time a single female can lay up to 20 eggs. Eggs hatch in 2-3 days. First instar larvae are less than 1 mm long, white and almost transparent. They then go through three instars and develop into mature larvae in about 7-10 days (Fig. 1b). The full-grown larvae are about 1mm long, 0.3 mm wide, legless, and reddish-orange in color. Once fully fed, the larvae cease feeding, come out of the buds and drop to the ground to pupate in soil. The puparia transform into adult flies in a few days. In South Georgia, gall midges can complete 5-6 generations from January through June.

Earlier in the season, midge larvae feed on floral bud tissues and on the pedicels that hold the individual flower buds to the peduncle within the developing flower cluster. As a result, flower buds dry up and disintegrate within about two weeks after infestation (Fig. 2). Depending on severity of infestation, high levels of flower bud abortion (as high as 80%) may occur. Although both rabbiteye and southern highbush blueberries are susceptible to blueberry gall midge, the impact of gall midge infestation is relatively less on early blooming cultivars of southern highbush because of the earlier timing of floral bud development. Later in the season, as plants progress to vegetative budding, oviposition also occurs on the new shoot meristems. Infested vegetative buds swell and the outer leaves curl enfolding feeding larvae inside. Vegetative meristems may also be infested and killed leading to distorted and blackened shoot tips, characteristic symptoms of damage caused by gall midge. The damage caused by gall midge in blueberries might be confused with frost damage or boron deficiency. The severity of damage depends on temperature and other climatic factors, and generally tends to be worse after mild winters.

The small size of the blueberry gall midge larvae and adult flies, and the larval feeding occurring inside the buds makes field detection very difficult before damage occurs. However, blueberry gall midge infestations can be detected prior to the onset of symptoms by collecting bud samples and using emergence traps and panel traps. For bud sampling, collect five young buds from 10-15 randomly selected bushes per acre. Place the buds into a zip-lock bag at room temperature. If buds are infested, reddish-orange larvae will begin to emerge after 3-4 days (Fig. 3).

extension.uga.edu

The emergence traps made up of an overturned bucket with a sticky transparent window at the top (Fig. 4) can be used to detect gall midge populations earlier in the season. These traps can also be used to predict peaks in larval infestation which is important for targeting pesticide application. Panel traps consisting of 1ft x 1 ft sticky panel attached to a metal or wooden post (Fig. 5) can also be used to detect midge adults.

The blueberry gall midge larvae are very difficult to kill using insecticides because they are protected by surrounding plant tissue while feeding inside the buds. It is therefore extremely important to kill adults before they lay eggs in the buds. However, because of their ability to go through multiple generations per season and short adult lifespan, careful scouting and timing of insecticide application are key to successful control of blueberry gall midge. Insecticides that have been shown to be effective against blueberry gall midge include Diazinon, Delegate, Imidan, Malathion, and Assail. Entrust is the only effective material for certified organic blueberries. For specific insecticide recommendations, please refer to Southeast Regional Blueberry Integrated Management Guides available at <http://www.smallfruits.org/SmallFruitsRegGuide/index.htm>. Several species of endoparasites such as *Synopeas* spp., *Platygaster* spp., and *Inostemma* spp. have been reported to contribute significantly to the biological control of blueberry gall midge populations, but the actual impact will depend on populations densities of these natural enemies in the blueberry orchards.



Figure 1. Blueberry gall midge (a) Adult, (b) Larva
(Credit: Little & Sial, University of Georgia)



Figure 2. Blueberry gall midge infested bud
(Credit: Little & Sial, University of Georgia)

extension.uga.edu



Figure 3. Blueberry buds placed in a zip-lock bag. The inset magnified to show the blueberry gall midge larvae that just emerged out of the infested buds
(Credit: Little and Sial, University of Georgia)



Figure 4. Bucket emergence trap
(Credit: E. M. Rhodes, University of Florida)



Figure 5. Panel Trap
(Credit: E. M. Rhodes, University of Florida)

extension.uga.edu

References:

- 1) Gagne, R. J. 1989. The Plant-feeding Gall Midges of North America. Cornell University Press, Ithaca, NY 356 pp.
- 2) Liburd, O. E., E. M. Sarzynski, N. Benda, E. M. Rhodes, B. J. Sampson. 2013. Blueberry gall midge: a major insect pest of blueberries in the southeastern United States. University of Florida, IFAS Extension Publication ENY825.
- 3) Lyrene, P. M. and J. A. Payne. 1993. Blueberry gall midge: A pest in rabbiteye blueberry in Florida. Proceedings, Florida State Horticulture Society, 105: 297-300.
- 4) Lyrene, P. M. and J. A. Payne. 1995. Blueberry gall midge: A new pest of rabbiteye blueberries. Journal of Small Fruit and Viticulture 3: 111-124.
- 5) Sampson, B. J., S. J. Stringer, and J. M. Spiers. 2002. Integrated pest management for *Dasineura oxycoccana* (Diptera: Cecidomyiidae) in blueberry. Environmental Entomology 31: 339-347.
- 6) Yang, W. Q. 2005. Blueberry gall midge, a possible new pest in the Northwest: Identification, life cycle, and plant injury. Oregon State University, Extension Service Publication EM8889.

UPCOMING EVENTS

February 1, 2016 Peanut Production Update- Swainsboro, GA

Dr. Scott Monfort will discuss peanut varieties and provide an update on 2015 research conducted by UGA. Mark Crosby will provide an update on burrower bug management based on 2015 research conducted locally and in other parts of Georgia. Lunch will be served. Must call to pre register. 478-237-1226. Meeting time: 12:00 pm – 3:00 pm. Location: Varner 4-H Center 220 S. Circle Drive Swainsboro, GA 30401.

February 1, 2016 Pierce County Cotton Production Meeting- Blackshear, GA

Cotton Production Meeting (6:30 pm – 8:30 pm) discussing pest control and the upcoming growing season. Pesticide credit will be offered. Dr. Jared Whitaker from UGA Crop & Soil Sciences, will be our guest speaker. Location: Pierce County Ag Center 705 College Avenue Blackshear, GA 31516. Please contact Julie Walker (phone: 912-449-2034 or email: uge4229@uga.edu) no later than Friday, January 29, 2016 for meal preparations.

February 3, 2016 Row Crop Disease Meeting- East Dublin, GA

Dr. Bob Kemerait, UGA Extension Plant Pathologist, will be there to cover disease control strategies for 2016. One hour private/one hour commercial (Cat 21) pesticide recertification will be offered. Sponsored meal will be provided, so please call ahead to reserve. Meeting time: 12:00 pm – 2:00 pm. Location: Cloverleaf Restuarant 425 Central Drive East Dublin, GA 31027 (Rear Entrance). For more information please contact Raymond Joyce or Sheila Wilcher at 478-272-2277.

February 4, 2016 Commercial Blueberry Production- Swainsboro, GA

Rene Holland, UGA Blueberry Specialist, will present a program highlighting the challenges and opportunities associated with getting started in the commercial blueberry business. Must pre register. Meeting time: 7:00 pm – 9:00 pm. Location: Varner 4-H Center 220 S. Circle Drive Swainsboro, GA 30401. For more information please contact Mark Crosby at 478-237-1226.

February 11, 2016 Tobacco Production Meeting- Metter, GA

A Tobacco Production Meeting will be held on Thursday, February 11, 2016 at 12:00 Noon at Bevricks Char House Grille in Metter, GA. Dr. J. Michael Moore and Dr. Paul Bertrand will be the guest speakers. Topics will include Insect Management, Weed Control & Disease Management. One hour of private and commercial pesticide applicator recertification credit will be given. Lunch will be provided. Please call the Extension Office at 912-685-2408 to RSVP. Location: Bevricks Char House Grille Hwy. 121 South Metter, GA 30439.

extension.uga.edu

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.

Or write us:

Ashfaq Sial Ahmad

IPM Coordinator

Department of Entomology

University of Georgia

Athens, GA 30602

E-mail: ashsial@uga.edu

extension.uga.edu

AGRICULTURE AND NATURAL RESOURCES • FAMILY AND CONSUMER SCIENCES • 4-H YOUTH

An equal opportunity/affirmative action institution