

Integrated Pest Management Program

Monthly Newsletter

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SPECIALIST SPOTLIGHT

Get to know the specialists stationed throughout the state of Georgia that make up the IPM Program.

Bhabesh Dutta

CAES Tifton Campus
2360 Rainwater Road | Tifton, GA 31793



Bhabesh Dutta was appointed as an Assistant Professor in the Department of Plant Pathology on 1 April 2015. Assigned duties include development of extension programs for commercial vegetables, instruction, and research. He has been involved developing a vigorous and innovative, nationally recognized and competitively funded extension program with the priority to transfer existing and/or generate new knowledge to mitigate diseases affecting the highly diverse \$1.2 billion in farm gate value vegetable production industry in Georgia. His extension program focuses on the management of the multitude of plant diseases that affect over 20 different vegetable crops produced in Georgia. Dr. Dutta's research efforts focus on Fusarium wilt of watermelon, gummy stem blight of watermelon, bacterial spot of pepper, black rot of cabbage, and a complex of bacterial diseases of

onion as well as monitoring strains for fungicide resistance and gaining a better understanding on the ecology of bacterial pathogens.

His current projects include researching sustainable IPM practices to reduce center rot of onion; evaluation of production practices, environmental factors, and inoculum sources that impact bacterial disease outbreaks in onion in Georgia; utilization of comparative genomics and genome wide association studies of bacterial pathogens affecting onion to identify key genomics regions of pathogenicity and virulence; develop, optimize and integrate current methyl bromide alternatives with non-fumigant nematicides and pre-emergence herbicide to improve Fusarium wilt, root knot nematodes, and nutsedge management in watermelon plasticulture systems; researching sustainable IPM practices to reduce Cucurbit downy mildew; monitoring fungicide resistance in Stagnosporopsis species complex; multidisciplinary approach to reduce Cucurbit leaf crumple virus and cucurbit yellow stunt disorder virus incidence in cucurbits; and develop a comprehensive and ecologically sustainable risk assessment model for bacterial leaf spot of pepper caused by Xanthomonas euvesicatoria, based on concentrations of macronutrients and micronutrients and micronutrient ratios.

An interesting fact that most people do not know is that Dr. Dutta is an avid "Lord of the Rings" fan and visiting New Zealand where most of the movie was filmed is on his bucket list. ■

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UGA IPM INFORMATION

The submission deadline for the July newsletter is **June 25, 2018**. Please submit all articles prior to the deadline. If you would like an article written about an upcoming event or project, please email stinafig@uga.edu.

Have questions about the newsletter, website or basic information? Contact us at IPM@uga.edu!

Have comments or suggestions about the newsletter redesign? Be sure to fill out our [survey](#) to let us know your thoughts.

UPCOMING EVENTS

Jun 1 & 2 – [Georgia Blueberry Festival](#) | 1:00PM | Alma, GA

June 7 – [Agronomic Crops Agent Training & Field Day](#) | 8:00 AM | Tifton, GA

Jun 11 – [Insect Scouting School](#) | 9:00AM | Tifton, GA

June 11, 12 & 13 – [2018 Georgia-Florida Tobacco Tour](#) | 7:00PM | Live Oak, FL

Jun 19 – [Insect Scouting School](#) | 9:00AM | Midville, GA

SAVE THE DATE

Jul 10, 11, & 12 – [50th American Peanut Research and Education Society Annual Meeting](#) | 8:00AM | Williamsburg, VA

Jul 19, 20, & 21 – [Southern Peanut Growers Conference](#) | 8:00AM | Miramar Beach, FL

Jul 24 – [2018 Northwest Georgia Row Crop Scouting School](#) | 10:00AM | Cartersville, GA

For more events, please visit the [UGA Extension Calendar](#).

FEATURED CREATURE

Pepper weevil

(Coleoptera, Curculionidae)
Anthonomus eugenii (Cano)

Description:

Immature stages – Eggs are oval and white when first deposited in the flower or fruit wall and are seen only if dissected. Larvae are the grub type, are white to grayish with a yellowish brown head. They lack legs and have few large hairs. First instar larvae are about 1 mm long and last instar larvae reach a maximum of about 5 mm. Pupae whitish, have structure of the adults except the wings are not fully developed, and have large setae (hairs) on the thorax and abdomen.

Adult stages – Pepper weevil adults are small weevils varying in length from 2.0 – 3.5 mm. The body is arched with a long stout beak, typical of weevils. The femora of the front legs has a sharp spur near the end. Adults are dark, ranging in color from dark mahogany to nearly black. The thorax and elytra are covered with light scales.

Biology:

Life Cycle – Adults can live for months in the pepper crop and overwinter in an active state, but only if food is available. This limits its survival in regions with harsh winters. Eggs are deposited into flower buds or small fruit, but larger fruit are utilized when smaller fruit are limited. The female chews an egg cavity into the bud or fruit, places a single egg into the cavity, and seals the puncture with a light brown fluid that hardens and darkens. This results in the characteristic oviposition ‘stipple’ or ‘dimple’ on fruit. Generally, a single individual develops within a flower bud or small fruit, but several weevils may develop within larger fruit. Females lay 5–7 eggs per day and eggs hatch in 3 – 5 days.

Larvae feed inside the flower bud or fruit and develop through 3 instars in about 12 days. The pupal stage within the fruit requires about 5 days. The adult emerges within the flower or fruit and chews a circular exit hole.

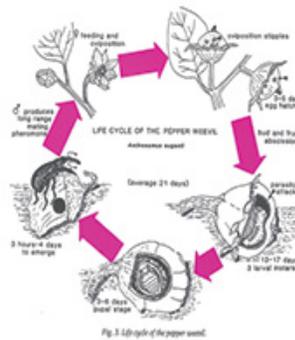
Damage to Crop:

Pepper weevil is the most severe pest of pepper and eggplant. Prior to the presence of fruiting structures, adults will feed on leaves. On flower buds, adult and larval feeding causes bud drop. Fruit drop is also common when small fruit are attacked and this is the most visible signs of an infestation. Heavy infestations are capable of causing near 100 percent loss of fruit. When larger fruit are attacked, the core will usually turn brown around the cavity where they pupate. The stem/calyx of infested fruit generally turns yellow. Weevils can also develop within large marketable fruit, causing fruit contamination, rejection of produce shipments, and/or pepper contamination at receiving points.

Management:

Because pepper weevil does not diapause and has a limited host range, thorough sanitation can greatly reduce weevil populations. If pepper weevil becomes established in a crop, scheduled insecticide applications beginning at first flowering are necessary. Prevent carryover/movement of infested pods between seasons.

David Riley, Professor, University of Georgia, 2018 ■



FROM THE FIELD

Articles and news stories pertaining to IPM field work written by IPM members.

Georgia sweet sorghum approval of Section 18 for Sivanto prime for sugarcane aphid

by G. David Buntin, Grain Crop Entomologist, University of Georgia – Griffin Campus

The EPA has approved a Section 18 Specific Emergency Exception for foliar application of Sivanto prime (flupyradifurone, EPA. No. 264-1141) on sweet sorghum for production of syrup to manage the sugarcane aphid in Georgia.

The Section 18 label lists foliar rates of 4.0 to 10.5 fl. oz. of product per acre with a maximum of 4 applications per year.

Seasonal maximum application allowed is 28 fl. oz. per acre per year. Pre-harvest interval is 21 days. The Exception is effective on May 8, 2018 and expires on Nov. 15, 2018.

Thank you to the Georgia Department of Agriculture, Office of Pesticide Services, for their assistance with this emergency use exception. ■



Bayer CropScience LP
 P.O. Box 12014, 2 T.W. Alexander Drive
 Research Triangle Park, North Carolina 27709
 1-866-99BAYER (1-866-992-2937)

SIVANTO™ prime
EPA Reg. No. 264-1141

For Use on Sweet Sorghum to control Sugarcane Aphid.

SECTION 18 SPECIFIC EXEMPTION

File Symbol: 18GA02

FOR DISTRIBUTION AND USE ONLY IN THE STATE OF Georgia
UNDER SECTION 18 EMERGENCY EXEMPTION

This labeling must be in possession of the user at the time of pesticide application. It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read entire Directions for Use and Disclaimer of Warranties before using this product. Follow all applicable directions, restrictions, Worker Protection Standard requirements, and precautions on the registered product label for **SIVANTO prime (EPA REG. NO. 264-1141)**.

Any adverse effects resulting from the use of SIVANTO Prime under this Section 18 Emergency Exemption must be immediately reported to Georgia Department of Agriculture.

EFFECTIVE PERIOD:

This Section 18 Emergency Exemption becomes effective 05/08/2018 and expires on 11/15/2018.
 A maximum of 200 acres of Sweet Sorgham may be treated in the State of Georgia.

DIRECTIONS FOR USE

SORGHUM (SWEET) – FOLIAR	
Pest Controlled	Product Rate (fl oz/A)
Sugarcane Aphid	4.0 – 10.5
<p>Foliar Application Restrictions: Pre-Harvest Interval (PHI): 21 days Minimum interval between applications: 7 days Minimum application volumes: 10 gallons/Acre (Ground); 2 gallons/Acre (Aerial) Maximum applications per year: 4 Maximum SIVANTO prime allowed per year: 28.0 fluid ounces/Acre (0.365 lb AI/Acre).</p>	

For **MEDICAL** And **TRANSPORTATION** Emergencies **ONLY** Call 24 Hours A Day 1-800-334-7577.
 For **PRODUCT USE** Information Call 1-866-99BAYER (1-866-992-2937).
 As with any crop-protection product, always read and follow label directions.
 For additional information call toll-free 1-866-99BAYER (1-866-992-2937).

FROM THE FIELD

Articles and news stories pertaining to IPM field work written by IPM members.

Woolens in Storage

by Nancy Hinkle, *Veterinary Entomologist, University of Georgia – Athens Campus*

Is it safe to pack away my wool clothes now, or will we have another cold snap?

If, like me, you're ready to put away your winter clothes, it's important to remember that woolen garments should be cleaned (washed or dry-cleaned) before summer storage. Why?

Most of us have experienced that sensation of pulling out our winter clothes when the weather turns cold in the fall, only to find one of our favorite sweaters with tiny holes. Historically, clothes moths have been blamed for the holes found in woolen clothes, but the vast majority of this damage is produced by carpet beetle larvae.

Every house has carpet beetles in it. The larvae feed on hair (mine and my pets'), dead insect carcasses (overwintering lady beetles behind the bookcase that died and I never vacuumed up), the carcass of that mouse that died behind the cabinets, and wool – even woolen carpets (from which they get the name carpet beetles). Less than an eighth inch long, carpet beetles are one of the few insects that can digest keratin, the material composing hair, wool, fur, and feathers.

Carpet beetle larvae thrive on stained

cloth, fabric soiled by sweat, spilled food, soil, and other materials. Cleaning the garment removes these stains as well as carpet beetle eggs that might hatch in storage.

If woolens are not stored in airtight containers, there is a good chance that carpet beetles will get to them and damage them before next fall. No, cedar will not repel carpet beetles. No, moth balls will not protect clothes from carpet beetles. No, essential oils will not protect clothing from carpet beetles (and vapors will stain clothing). No, treating clothing with insecticides will not keep carpet beetles away (not to mention being illegal and hazardous to my health).

The only way to protect my woolens from carpet beetles is to clean them thoroughly, either by washing or having them dry-cleaned, and then store them in airtight containers. So, you can imagine how I spent my weekend. I went to the store and purchased several airtight plastic storage containers, picked up my dry-cleaning, and packed it away for the summer. The washable items have been washed, dried, and put away. Now my favorite woolens are safe until I pull them out and put them on this fall. ■



Carpet beetle larva



Adult carpet beetle

MEDIA MENTIONS

Articles and news stories pertaining to IPM field work written by outside sources.

Insect scouting is an important part of any vegetable management plan

by Becky Griffin

Whether you work on a large family farm, in a home vegetable garden, or in a small, community garden vegetable plot, routinely scouting for insects should be an important part of your vegetable-growing plan.

Insect pests can be a costly problem in vegetables. The life cycles of some insect pests are so short that missing just one week of scouting can lead to an increase in pests and damaged crops.

Scouting involves carefully and deliberately walking through the garden and looking for insects on a routine basis. Inspect the leaves, fruits and vegetables. Check the undersides of leaves and the stems.

Insects often deposit eggs on the undersides of leaves, and evidence of boring insects can be seen on plant stems. If you can't identify an insect, contact your local University of Georgia Cooperative Extension agent for assistance. Do not automatically apply insecticide.

Remove insect eggs by removing the entire leaf, folding the leaf over on itself and smashing the eggs. If you want to preserve the leaf, use sticky tape to remove the eggs. Place the tape on top of the egg mass and gently pull to remove the eggs. Fold the tape over on itself and smash the eggs.

Eggs like these are easy to miss if you don't routinely scout your garden. It's easier to deal with squash bug eggs than manage the over 30 squash bugs that could mature from these eggs.

Learning about common insect pests for the food crops you are growing can be very helpful. Leaf-footed bugs (*Leptoglossus* spp.) are a problem



Insect scouting is an important part of any vegetable management plan.

for tomatoes, while squash bugs are pests found in cucumbers, squash and pumpkins. Aphids (Aphidoidea superfamily) are a common problem, especially when plants are full of liquid, after a rain, or when plants are growing quickly. Mexican bean beetles (*Epilachna varivestis*) can easily destroy a bean crop, but these insects are sometimes mistaken for beneficial lady beetles.

Around 3 percent of insects are pests, so the insects you find in your garden don't always cause problems. Don't assume every insect you find is a bad bug. Take the time to learn about beneficial insects, such as assassin bugs, parasitic wasps and lady beetles, that can be tremendous allies in your garden. Often these insects need floral resources, so the plants you add to attract pollinators will also help other beneficial insects.

Scouting is just one tool of an

integrated pest management (IPM) program. Other IPM tools to consider:

- Altering planting times to miss large insect populations
- Using trap crops
- Starting with healthy soil
- Keeping the garden clean of debris
- Hand-pulling weeds
- Creating a habitat for beneficial insects and pollinators
- Watering wisely
- Using plants that are proven to do well in your area

For additional information about insect scouting, insect identification, or pollinator or beneficial insect gardening, contact your local UGA Extension agent at 1-800-ASK-UGA1. ■

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MEDIA MENTIONS

Articles and news stories pertaining to IPM field work written by outside sources.

Georgia watermelon farmers mindful of potential disease pressure following rainfall

by Clint Thompson

Georgia watermelon producers are busy guarding their crops against potential disease pressure following last week's rainfall.

University of Georgia plant pathologist Bhabesh Dutta issued an alert last week to all Georgia vegetable farmers announcing that downy mildew was discovered in northern Florida. The pathogen that causes downy mildew can't survive a hard frost, so it overwinters in frost-free regions like southern Florida. During May and early June, wind currents blow the spores into Georgia.

Downy mildew can degrade or destroy watermelon plants' foliage. The pathogen thrives in wet, humid conditions and needs moisture on the plant's surface for successful spore germination and further infection.

Dutta believes all Georgia watermelon producers will have to treat for downy mildew at some point during the growing season. Tift County Extension Coordinator Scott Carlson believes that time could come soon.

"With these weather systems coming through and the rainfall events that we're having, we could have good conditions for infections to occur if the spores are out there," Carlson said.

Because of the favorable conditions for disease development, Dutta encourages farmers to apply chemical treatments for downy mildew even if there are no signs of the disease. Growers can avoid significant damage if they stay ahead of the disease, he said.

Unpredictable weather patterns have kept Georgia watermelon farmers on their toes this spring. Abnormally cool temperatures in early to mid-April



University of Georgia plant pathologist Bhabesh Dutta believes all Georgia watermelon producers will have to treat for downy mildew at some point during the growing season. Tift County Extension Coordinator Scott Carlson believes that time could come soon.

slowed the growth of the watermelon plants. However, watermelon plants hit a growth spurt over the past two weeks as temperatures soared into the 90s.

"We're probably still a little bit behind where we have been in the past, but a large number of fields have softball or larger-size fruit in them. Depending on variety, those growers can expect a harvest in early to mid-June," said UGA Extension vegetable specialist Tim Coolong.

In addition to disease, UGA Extension experts caution growers to be on the lookout for insects when Georgia experiences hot, dry weather again.

Colquitt County Extension Agriculture and Natural Resources Agent Jenna Kicklighter and the producers in her county have been worried about downy mildew infecting their fields. Now they are watching for insect problems.

"From an insect standpoint, the recent heat and dry conditions have increased the insect pressure. Various insects have been more active," Kicklighter said. "It's kind of like you can't win for losing. When the rain comes, it helps with the insects, but disease risk increases. When it's hot and dry, farmers don't worry about diseases near as much, but they have to watch the insect pressure. The weather has just been crazy this year." ■

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MEDIA MENTIONS

Articles and news stories pertaining to IPM field work written by outside sources.

UGA Extension to host insect scouting schools in June

by Clint Thompson

Two insect scouting schools, hosted by University of Georgia Cooperative Extension in June, will introduce new scouts to insect monitoring and serve as a review for experienced scouts and farmers.

One of the scouting schools will be held on Monday, June 11, at the UGA Tifton Campus Conference Center. The second school will be held on Tuesday, June 19, at the Southeast Georgia Research and Education Center in Midville, Georgia. Both events will run from 9 a.m. to 12:30 p.m.

This year's scouting schools will cover insect pests in row crops like cotton, peanuts and soybeans. Attendees will learn identifying information about pests and the damage they inflict on crops, natural enemies, different scouting procedures, and safety in the field. The schools will conclude with an in-field review.

"Scouting remains our best defense against insect pests. If our growers can recognize certain insects and the damage they cause, they'll be better prepared to make the appropriate treatments before it's too late," said Phillip Roberts, UGA Extension entomologist. "Scouting schools serve as great sources of this type of information for our growers."

The event is free. For more information about the scouting school in Tifton, contact Debbie Rutland at 229-386-3424. For more information about the scouting school in Midville, contact Peyton Sapp at 706-554-2119. ■



UGA Extension peanut entomologist Mark Abney does a demonstration on insect scouting.

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MEDIA MENTIONS

Articles and news stories pertaining to IPM field work written by outside sources.

Soil temperature is key to planting peanuts

by Julie Jernigan

Now is the peak time to plant peanuts in Georgia, according to Cristiane Pilon, University of Georgia Cooperative Extension peanut physiologist.

During a research trial on the UGA Tifton campus in 2017, Pilon planted peanuts at three different times: mid-April, mid-May and early June. She discovered that the seedling vigor in the peanuts planted in May was the strongest.

“By choosing these dates, we were able to see how the soil temperature affected the early-season physiology of the most-planted cultivars, such as Georgia-06G,” said Pilon, who plans to conduct the research trial again this year and in 2019.

Seed vigor is the ability of the cultivar to rapidly develop its first true leaves and root system under suboptimal environmental conditions.

According to Pilon, soil temperature is the pivotal factor in deciding when to plant peanuts.

If peanuts are planted too early, the seedling emergence and vigor tend to be lower due to cooler temperatures in April, which may impair yields. If peanuts are planted too late, growers may see early seedling emergence due to higher temperatures in early to-mid June, but lower yields have been observed.

“The temperature must be higher than 68 degrees Fahrenheit over a three-day period,” Pilon said. “To start germination, peanut seeds need good soil temperatures, water and oxygen. If there are no potentially adverse weather conditions, then farmers are good to plant.



Seed vigor is the ability of the cultivar to rapidly develop its first true leaves and root system under suboptimal environmental conditions.

“You have to make sure your plants are healthy and vigorous throughout the process for a successful production. The faster the plant grows, the more vigorous it is,” she said.

Pilon wants to understand the relationship between time to emergence and other physiological processes for peanuts. She hopes her research will help farmers make more precise planting decisions.

“I read research on other row crops, and the development of first leaves is so important because that’s when the plant becomes photosynthetically active, greatly contributing to growth,”

Pilon said. “We conduct research to identify the underlying physiological mechanisms promoting seedling vigor in order to help farmers make viable planting decisions. By planting in May, or when the weather conditions are just right, they will have a better product.”

For more information regarding peanut research, visit www.caes.uga.edu/extension-outreach/commodities/peanuts.html. ■

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FUNDING OPPORTUNITIES

Potential grant options for IPM field work.

Higher Education Multicultural Scholars Program (MSP)

The closing date for the grant application is June 20, 2018.

The purpose of this competitive undergraduate scholarship grant program is to increase the multicultural diversity of the food and agricultural scientific and professional workforce, and advance the educational achievement of all Americans by providing competitive grants to colleges and universities. For more information, please visit their [website](#). ■

Agriculture and Food Research Initiative – Sustainable Agricultural Systems

A letter of intent for grant application is due June 27, 2018.

Applications to the FY 2018 Agriculture and Food Research Initiative – Sustainable Agricultural Systems (SAS) Request for Applications (RFA) must focus on approaches that promote transformational changes in the U.S. food and agriculture system within the next 25 years. NIFA seeks creative and visionary applications that take a systems approach, and that will significantly improve the supply of abundant, affordable, safe, nutritious, and accessible food, while providing sustainable opportunities for expansion of the bioeconomy through novel animal, crop, and forest products and supporting technologies. These approaches must demonstrate current and future social, behavioral, economic, health, and environmental impacts. Additionally, the outcomes of the work being proposed must result in societal benefits, including promotion of rural prosperity and enhancement of quality of life for those involved in food and agricultural value chains from production to utilization and consumption. See AFRI SAS RFA for details. For more information, please visit their [website](#). ■

Food and Agriculture Education Information System (FAEIS)

The closing date for the grant application is June 28, 2018.

NIFA requests applications for the Food and Agriculture Education Information System (FAEIS) for fiscal year (FY) 2018 to maintain a national food and agricultural education information system that contains information on enrollment, degrees awarded, faculty, employment placement, and other similar information in the food and agricultural sciences.

The Food and Agriculture Education Information System (FAEIS) is a comprehensive database that gathers information, on a voluntary basis, from degree granting institutions of higher education on student enrollment in Food, Agriculture, Natural Resources, and Human Sciences (FANH) sciences, degrees awarded, and graduate placement at all degree levels and by gender, race, and other relevant categories. In addition, data is collected on faculty salaries by rank and discipline. For more information, please visit their [website](#). ■

Citrus Disease Research and Extension (CDRE)

The closing date for the grant application is June 29, 2018.

The Specialty Crop Research Initiative (SCRI) Citrus Disease Research and Extension Program (CDRE) is authorized in the Agricultural Act of 2014 (H.R. 2642) to award grants to eligible entities to conduct research and extension activities, technical assistance and development activities to: (a) combat citrus diseases and pests, both domestic and invasive and including huanglongbing and the Asian citrus psyllid, which pose imminent harm to United States citrus production and threaten the future viability of the citrus industry; and (b) provide support for the dissemination and commercialization of relevant information, techniques, and technologies discovered pursuant to research and extension activities funded through SCRI/CDRE and other research and extension projects targeting problems caused by citrus production diseases and invasive pests. For more information, please visit their [website](#). ■

We value your feedback. Please complete our [survey](#).

To be added to the mailing list, please call us at 706-542-1320 or email us at ipm@uga.edu.

The UGA Integrated Pest Management Newsletter is a monthly journal for researchers, Extension agents, Extension specialists and others interested in pest management. It provides the 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, extension publications or appropriate specialists for additional information.

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