

#### **Integrated Pest Management Newsletter**

February & March 2016 | Vol. III Dr. Ashfaq Sial Ahmad, IPM Coordinator

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#### **FUNDING OPPORTUNITIES**

#### Southern Sustainable Agriculture Research & Extension RFA

2017 Southern Sustainable Agriculture Research & Extension (SARE) RFA, which was released last week. Research & Education Grants award up to 3 years of research activities. The funding range generally falls between \$100,000 and \$300,000. The deadline for pre-proposals is 3 June 2016.

All SARE Research and Education Grant applicants must propose systems oriented research that fits one of three grant categories:

- Production research—Focused on actual production methods, this kind of research has made up the bulk of SARE's project portfolio in the past and has developed techniques that have become common tools for farmers.
- Postharvest/food systems research—These projects examine what happens past the farm gate such as in the markets, distribution systems and policy making. This category can serve as a funding path for social science researchers to also make a difference in our farm and food systems.
- A combination of production and postharvest/food systems research—The ultimate in systems research would connect what goes on in the ground with everything that happens after a crop is harvested, including adding value, marketing, infrastructure for processing and transportation, as well as policy making.

See below and <a href="http://www.southernsare.org/Grants/Types-of-Grants/Research-Education-Grants">http://www.southernsare.org/Grants/Types-of-Grants/Research-Education-Grants</a> for more information.

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 all aspects of proposal development. Please contact us at grantscoordinator@uga.edu if we can be of help.

## 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.

# 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: <a href="http://nifa.usda.gov/sites/default/files/rfa/16\_BRAG%20RFA.pdf">http://nifa.usda.gov/sites/default/files/rfa/16\_BRAG%20RFA.pdf</a> for the grant application, guidelines, and additional information.

#### **Zika Virus Update**

In response to the emergence of the Zika virus in the Americas, a national pest alert has been developed by the USDA National Institute of Food and Agriculture funded Regional Integrated Pest Management Centers. The pest alert and links to additional resources are available at <a href="http://ncipmc.org/action/alerts/zika.php">http://ncipmc.org/action/alerts/zika.php</a> to assist individuals in reducing their exposure to mosquitoes as well as discussing ways to eliminate mosquito larval and pupal development sites. The pest alert can be downloaded, printed and distributed as needed by Extension personnel and the general public The Zika virus, a flarivirus, is spreading quickly throughout the Americas and is vectored by *Aedes* mosquitoes. The virus can also be transmitted by blood transfusion, sexual contact, and in rare cases from mother to child. To date, all cases of humans infected with the Zika virus in the U.S. have contracted it from mosquitoes while traveling to countries where the Zika virus is present or through sexual transmission from an infected partner.

For more information about areas active with mosquito-borne transmission and travel recommendations see the website of Centers for Disease Control and Prevention at <a href="http://www.cdc.gov/zika/geo/">http://www.cdc.gov/zika/geo/</a>. The pest alert will be updated if more information becomes available.

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### Zika Virus

#### **Zika Virus Transmission**

Zika, a mosquito-transmitted virus, has recently been reported in North America from travelers who have returned from areas where the virus is present. The primary means of transmission is from the bite of infected female *Aedes* mosquitoes. Other modes of transmission that have been documented include blood transfusion, sexual contact, and rarely, from mother to child.

To date, all cases of humans infected with the Zika virus in the U.S. have contracted it from mosquitoes while traveling to countries where the Zika virus is present or through sexual transmission from an infected partner. The primary mosquito vector appears to be the yellow fever mosquito, *Aedes aegypti*, although a number of other *Aedes* species are known to serve as vectors capable of transmitting the disease to humans including the Asian tiger mosquito (*Aedes albopictus*).

#### Origin of Zika

Zika was first isolated in 1947 in Uganda's Zika Forest in Africa where it was discovered in a rhesus monkey. The virus remained relatively unknown until a large outbreak occurred in Micronesia in 2007. Scientists believe the Zika virus mutated into the 2007 increased virulence strain from the original strain found in Uganda. Since 2007 the virus has rapidly spread through the Pacific Islands and in 2015 it appeared in South America.

#### **Mosquito Life Cycle**

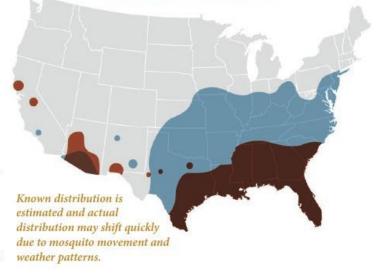
Mosquitoes are classified into the order Diptera (true flies) and have four distinct life stages (egg, larva, pupa, and adult). Female mosquito species known to transmit Zika virus lay their eggs on moist surfaces such as the interior walls of treeholes, cans, bromeliad plants, various types of containers, and old tires that are likely to be flooded by water. Most larvae hatch within 48 hours and the larvae and pupae live in water. The adult mosquito emerges from the pupal case and rests on the water's surface until its body dries and its exoskeleton hardens. Male and female mosquitoes generally feed on flower nectar. Female mosquitoes require a blood meal before they can lay eggs, so only female mosquitoes bite. They bite every few days during their entire adult lives, which may last several weeks.





Aedes aegypti A

ypti Aedes albopictus



#### **Mosquito Prevention and Control**

You can most effectively reduce the number of mosquitoes around your home and neighborhood by eliminating the standing water in which mosquitoes require to complete their development cycle.

 Dispose of any refuse that can hold water, such as tin cans, containers, and in





United States Department of Agriculture National Institute of Food and Anriquiture



particular, used tires. Tires have become the most important developmental sites for Zika-transmitting mosquitoes in the U.S. Even small containers holding less than one cup of water are sufficient for the development of these mosquitoes.

- Drill holes in the bottoms of recycling containers and check uncovered junk piles.
- Clean clogged roof gutters every year, and check storm drains, leaky outdoor faucets, and window wells. Fallen leaves and other organic debris indirectly provide food for mosquito larvae.
- Prevent the accumulation of standing water and empty water from wheelbarrows, boats, cargo trailers, pet dishes, toys, saucers underneath flower pots, and ceramic pots. If possible, turn these items over when not in use.
- Do not allow water to stagnate in birdbaths, ornamental pools, water gardens, and swimming pools or their covers. Ornamental pools can be aerated or stocked with fish. Swimming pools should be cleaned and chlorinated when not in use.
- Alter the landscape of your property to eliminate standing water. Keep in mind that during warm weather, mosquitoes can develop in any puddle of water. Larvicides are highly effective in controlling immature mosquitoes and should be considered when standing water cannot be eliminated.

#### **Protect Yourself from Bites**

Even though your property may lack mosquito-developmental sites, mosquitoes can travel 2 to 3 miles from their aquatic habitat site in search of a blood meal. Therefore, it may be necessary to supplement larval control with other control measures directed at adult mosquitoes. The following tips can help to reduce your risk of being bitten by a mosquito:

Make sure window and door screens are "bug tight." Window screening is made to keep out mosquitoes, so repair any holes or tears. Install weather-stripping to keep mosquitoes from entering around loose fitting doors and windows.

Use the proper type of light outside: incandescent lights attract mosquitoes, whereas fluorescent lights neither attract nor repel mosquitoes.

Aedes species associated with the Zika virus are considered "day" biters so protect yourself whenever outside or in the presence of mosquitoes. Long-sleeved shirts and long pants provide some protection against bites.

Insect repellents when applied according to the label directions to exposed skin deter mosquitoes from biting. Spray thin clothing with repellent because mosquitoes can bite through it. Various repellents differ in how they are formulated. Some are labelled for application to skin only, some can be applied to clothing only, and some are labeled for both skin and clothing. It is important to read the label of the product to determine how it should be applied. The American

Academy of Pediatrics recommends that repellents used on children contain no more than 10 percent DEET, the active ingredient in mosquito repellents. The Centers for Disease Control guidelines state that pregnant women are not excluded from using EPA-registered repellents. Be sure to follow all directions on product labels.

#### **Symptoms of the Zika Virus**

Most humans infected with Zika have very mild or no symptoms so many individuals may not realize they are infected with the virus. A small number of infected individuals (1 in 5) develop mild symptoms that include fever, joint pain, conjunctivitis and a body rash. Symptoms typically occur 2 to 7 days following the bite from an infected mosquito. More severe symptoms may occur in some individuals including paralysis. Researchers are investigating the link between the Zika virus and birth defects including microcephaly.

The World Health Organization and the Centers for Disease Control and Prevention are tracking the distribution of the virus and recommending some individuals including pregnant women refrain from traveling to areas where the virus is present. State health departments and university extension personnel may have mosquito control and detection programs for your state.

For more information about the Zika virus, mosquito control recommendations, and state resources visit our Web site at: **ncipmc.org/action/alerts/zika.php** 

This publication was produced and distributed in cooperation with the USDA NIFA Regional Integrated Pest Management Program Centers and State-based Extension Programs. For more information regarding the development of this document, please contact Susan T. Ratcliffe at sratclif@uiuc.edu or by phone at (217) 333-9656.

#### Contributors

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Aedes images from:

Ed Freytag, New Orleans Mosquito, Termite and Rodent Control Board

#### 1862 Land-Grant Universities

Auburn University University of Alaska University of Arizona University of Arkansas University of California Colorado State University University of Connecticut University of Delaware University of the District of Columbia University of Florida University of Georgia University of Guam University of Hawaii University of Idaho University of Illinois Purdue University Iowa State University of Maine University of Maryland University of Kentucky Louisiana State University University of Minnesota Mississippi State University University of Missouri Montana State University University of Nebraska University of Nevada University of New Hampshire Rutgers New Mexico State University Cornell University North Carolina State University Oregon State University Ohio State University Oklahoma State University Oregon State University Pennsylvania State University University University of Rhode Island Clemson University Suth Dakota State University University of Tennessee Texas A&M University University University University Of Vermont University Regional of the Virgin Islands Virginia Polytechnic Institute & State

University Washington State University West Virginia University West Virginia State University University of Wisconsin University of Wyoming.

February 2016



Jnited States Department o Agriculture National Institute of Food and

#### FROM THE FIELD

#### INTEGRATING WETLAND ECOSYSTEM SERVICES INTO AGRICULTURE

### Darold Batzer University of Georgia, Department of Entomology

Floodplain wetlands are considered among the most valuable habitats on the planet in terms of the ecosystem services they provide per unit area (>\$10,000/acre/yr). This high economic value is largely derived from the roles floodplains play in cleansing river waters, their value in supporting important biota (fish, birds, amphibians, invertebrates, plants), and the cultural values they provide to many people. Floodplain wetlands are also of special importance to Georgia. The vast majority of the wetland acreage in the state occurs on river floodplains. So coupled with their value per acre, maintaining the ability of floodplain wetlands to provide important ecosystem services would confer massive benefits to Georgia.

Most farmers and the general public in the United States, however, view wetlands negatively, and consider them as "wastelands" to be drained to convert the land into productive uses. But floodplain wetlands provide many beneficial ecosystem services to agriculture. For example, natural flooding of agricultural land on floodplains enhances soil conditions for crops by replenishing sediments and nutrients. Wetlands process agro-chemicals (fertilizers, nitrates, pesticides), protecting groundwater and surface water supplies. Wetlands may provide additional positive feedbacks to agricultural land by serving as habitat for beneficial organisms such as predatory and pollinating insects that may enhance crop production. If it can be convincingly shown that wetlands in agricultural landscapes enhance productivity of croplands, actually providing economic benefits, prudent farmers may voluntarily choose to conserve or enhance wetland habitats on their properties.

Towards this end, the Environmental Protection Agency has just awarded a \$200,000, 3 year grant to Darold Batzer and Joseph McHugh of the Department of Entomology, Mark Risse, Dennis Hancock, and Josh Griffin of the Department of Crop and Soil Sciences, Susan Varlamoff of the CAES Environmental Sciences Office, and C. Rhett Jackson and Susan Wilde of the Warnell School of Forest Resources, at UGA (see photo 1). This group intends to demonstrate how wetland ecosystem services can be integrated into agriculture at the newly acquired UGA Iron Horse research farm on the banks of the Oconee River (Greene Co.). The site has an extensive complex of floodplain wetlands in close proximity to cultivated fields (various crops; see photo 2). They intend to: 1) Establish hydrologic and ecological linkages between croplands and wetlands; and 2) Show how agricultural floodplain wetlands can be managed to simultaneously maintain wetland ecosystem services and cropland productivity. To target farmers, the general public, and scientists, the group will also: conduct outreach to Georgia educators on how wetlands are integrated into agricultural landscapes using Project WET (Water Education for Teachers), a collaboration between GA Environmental Protection Division and EPA to provide teachers with water education curricula, and coordinate with regional Future Farmers of America teachers, who work towards educating high school students about agricultural best management practices.

If you are interested in more information about this new initiative, please contact Darold Batzer at <a href="mailto:dbatzer@uga.edu">dbatzer@uga.edu</a>.



The research group at the Iron Horse Farm, from left to right Susan Varlamoff, Mark Risse, Joe McHugh, Darold Batzer, Rhett Jackson, and Susan Wilde. (Not pictured Josh Griffin and Dennis Hancock).



Oconee River floodplain at the Iron Horse Farm during a high water event in February, where extensive areas of cropland were inundated. This project may find that these kinds of events provide many benefits to agricultural production at the site.

#### Monitoring and Management of Thrips in Blueberries

### Ash Sial Department of Entomology, University of Georgia

Flower thrips are chronic pests of both southern highbush and rabbiteye blueberries in the southeastern United States. Thrips are minute (1 to 1.3 mm long) insects with slender body and usually yellowish to orange in color. Adults have long thin wings fringed with fine hairs (Figure 1). Females are generally larger than males. Both adults and nymphs have rasping and sucking mouthparts, which are used to extract cell sap from plant tissues.

Several species of thrips have been reported to infest blueberries. Of those, the eastern flower thrips, *Frankliniella tritici*, Florida flower thrips, *F. bispinosa* (Morgan), and western flower thrips, *F. occidentalis* (Pergrande) have been identified as pests of both rabbiteye and southern highbush blueberries in the southeastern United States. These three species of thrips have a wide host range and cause extensive damage to blueberries and many different crop plants. Economic damage has often been observed in early-season blueberries.

Flower thrips usually occur in hotspots within a blueberry field. They have relatively short life cycle and can complete development from egg to adult stage in 18-22 days under optimum conditions. Flower thrips go through multiple generations per year. Females lay their eggs within plant tissue, making them very difficult to see with the naked eye. The eggs develop through four larval instars. The first two instars are very active (Figure 2) while the third and fourth instars are inactive. They hide in the ground or in the flowers and do not feed.

Flower thrips usually live inside the blueberry flowers. Both adults and larvae cause damage by sucking sap from flower tissues including styles, ovaries, petals and fruits, reducing the quality and quantity of fruits produced (Figure 3). Flower thrips may feed on pollen, which can lead to fruit abortion. These types of feeding injuries can initiate major yield losses. Additionally, females lay eggs within various flower tissues and the scars from this egg laying activity can cause mature fruit to be unmarketable.

Population densities of flower thrips are highly correlated with the percentage of opened flowers in a blueberry field. Initially flower thrips are observed in hotspots field and the number of flower thrips peak when majority of the flowers (80-90%) are open which is usually 2 weeks from the bloom. The likelihood of flower thrips infestation in a particular field is dependent upon temperature, variety phenology and proximity to alternative host plants.

#### **Monitoring**

You can monitor flower thrips in blueberry fields using zip-lock bags.

<u>Zip-lock bag</u>: In this method, collect five bloom clusters from each of the 5-10 randomly selected bushes from different parts of a blueberry field. Place the bloom clusters in a sealed (zip-lock) bag to drive the thrips out of the blooms and count the thrips. If there are 2-6 thrips per bloom, it is becoming problematic and more than 6 thrips per bloom can be quite injurious and therefore control strategies should be implemented.

#### Management

Flower thrips can be very damaging to flower buds and blooms, especially in rabbiteye cultivars. Thrips numbers often increase dramatically as bloom progresses. Begin sampling bloom clusters for thrips at Stage 3. Sample two to three times a week from Stage 3 up to bloom. Place flower bud clusters in sealed plastic bags and incubate them in a warm room or on a windowsill. Take a minimum of 5 clusters per block each time. Treat if 2 or more thrips per individual bloom are found. Delegate, Entrust, and Assail are effective against thrips and can be used to control thrips. However, these insecticides may be toxic to bees and other pollinators which is a major concern considering the timing of thrips infestations. It is therefore extremely important to use these materials following label instructions in order to minimize unintended harmful effects to non-target organisms. Further details are available in 2016 Southeast Regional Blueberry Integrated Management Guide at

http://www.smallfruits.org/SmallFruitsRegGuide/Guides/2016/2016BlueberrySprayGuideFINAL.pdf

#### **Early Blueberry Rust**

### Phil Brannen Department of Plant Pathology, University of Georgia

We have received numerous field reports of early (March and April) blueberry rust in 2016, likely as a result of a milder than average winter and the recent heavy rainfall observed in many blueberry production areas. It is a good time to start scouting for rust if you have not already done so. Russel Ingram, a graduate student in Plant Path at the University of Georgia, has also observed active sporulation of rust on old leaves from 2015 that have not abscised. The blueberry IPM guide at <a href="https://www.smallfruits.org">www.smallfruits.org</a> provides information on specific fungicides for rust management. If a variety is susceptible to rust, early defoliation can result, and this will reduce yields next year as a result. Scouting is required to determine whether rust is developing in specific varieties. Many fungicides applied for other leaf spots will also have rust activity; this is particularly true of the strobilurin (Abound, Pristine, etc.) and DMI fungicides (Proline, Quash, Tilt, Orbit, Indar, Bumper, etc.). Please advise your commercial blueberry producers that they should be concerned about post-season leaf spot management, and they should consider fungicide application as needed to prevent premature defoliation due to rust, Septoria, and anthracnose leaf spots.



Figure 1. Early blueberry rust symptoms on 'Rebel'. Photo courtesy of Bob Boland (retired county agent).

#### **SEB AWARDS-2016**

#### **ESA RECOGNITION AWARD IN ENTOMOLOGY**

Dr. David G. Riley, a professor in the Department of Entomology at The University of Georgia (UGA), is the 2016 recipient of the Southeastern Branch, Entomological Society of America Recognition Award in Entomology. He began his professional career at the University of Georgia as a student worker in the Institute of Ecology, graduating with a Bachelor's degree in 1981. He then spent two years as an agricultural extension Peace Corps volunteer in Ecuador, South America working in vegetable production in the inter Andean valley near Ambato. He obtained a MS Entomology degree at North Carolina State University in 1986 and completed his academic training with a PhD in Entomology at the University of Florida in 1990 working on pepper weevil. He then worked for 5½ years as a vegetable entomologist with Texas A&M University and accepted a position as Vegetable Research Entomologist at the University of Georgia, Tifton Campus in 1996 where he has resided until now. He is currently the Graduate Coordinator for the Masters in Plant Protection and Pest Management (MPPPM) degree. In addition, he has served as Major Professor for 17 Entomology graduate students and served on 13 other thesis committees and coordinated 37 MPPPM programs. He has served as principal investigator for research grants in the amount of \$4,085,788 and his total direct grant involvement is \$6,061,374. Dr. Riley has authored or coauthored 10 book chapters, 76 refereed journal articles, 27 published proceedings or bulletins, 32 refereed experiment station/extension publications, 69 other experiment



station reports, and 26 non-refereed journal articles and over 140 abstracts. D. Riley has presented 32 invited papers at national and international meetings, 109 invited talks at regional and local meetings, and 169 submitted papers to various meetings. He developed a new course, ENTO 4350/6350 Crop Specific Insect Management, frequently teaches ENTO 8900 Special Problems, and taught/co-taught ENTO 4000/6000 General Entomology at the UGA Tifton Campus. His career has focused on providing practical solutions for complex pest-crop problems in high value vegetable crops such as the management of whiteflies and thrips and the viruses they transmit. He recently is focusing on *Chalcodermus aeneus*, the cowpea curculio.

#### **ESA DISTINGUISHED ACHIEVEMENT AWARD IN TEACHING**

Dr. Marianne Shockley received her Bachelor's degree in Biology from Georgia College and State University in Milledgeville, Georgia in 1997. Marianne later received her M.S. (2001) and Ph.D. (2009) degrees from the Department of Entomology at the University of Georgia. In 2010, Marianne was hired as an Academic Professional Associate in Entomology at UGA and assumed the position of Undergraduate Coordinator in 2013. While a faculty member at UGA she has implemented several experiential learning initiatives including developing servicelearning courses, study abroad courses, research and internship experiences, and distance education courses. Marianne has a passion for teaching and learning and is always looking for new, engaging, and innovate ways to reach various learners using diverse technologies and social media platforms. Annually the UGA Insect Zoo and the UGA Bug Dawgs reach over 30,000 Georgians through their service-learning and outreach initiatives. Marianne has been involved with international education and programs since 2006 when she developed Entomology's first study abroad course in Costa Rica and Ecuador. She has traveled each summer to Costa Rica, Ecuador and/or the Galapagos with a group of ~20 participants and K-12 teachers. Her research interests include program and course development in the areas of outreach and service, service-learning, edible insects for food and feed, forensic entomology, distance



education and international program development. She currently teaches Entomology Outreach & Service-Learning, Entomology for Teachers Distance Education, Forensic Entomology and Insect Natural History in Ecuador.

#### FRIENDS OF IMP FUTURE LEADER AWARD

Dr. Ashfaq A. Sial, an Assistant professor in the Department of Entomology at The University of Georgia, is the 2016 recipient of the Southern IPM Center's Friends of IPM Award. This award recognizes extraordinary achievements in IPM and promise for the South. He received his Bachelor's degree in Agriculture in 1998 from the University of Arid Agriculture Rawalpindi, Pakistan. Dr. Sial later received a M.S. in Agricultural Entomology (2000) from University of Agriculture Faisalabad, Pakistan and another M.S. in Grain Storage Management (2003) from the University of Greenwich, United Kingdom. He then received a P.D. in entomology in 2010 from Washington State University. Dr. Sial began his professional career at UGA in 2013 as an Assistant professor over the Small Fruit IPM Lab and IPM Coordinator. Dr. Sial has developed strong



collaborations with researchers across the United States. Over the last two years, he has served the IPM community in the southern United States in a leadership role as Chair of the Southern Region Technical Committee on IPM (SERA 003) and is currently serving as representative of Southern Region on National IPM Coordinating Committee. Recently, Dr. Sial was awarded a NIFA-OREI grant for spotted wing drosophila valued at \$2 million as a Project Director and another grant from NIFA-SCRI \$7 million as Co-Project Director. He has 25 publications, scores of extension publications and many other awards.

#### **UPCOMING EVENTS**

#### March 2, 2016 Peanut Production Meeting- Millen, GA

Peanut production meeting; advance registration is required. Contact Jason Mallard at 478-982-4408 to register. Meeting time: 6:30 pm – 8:00 pm. Location: 434 Barney Ave, Millen, GA 30442, Ag Building.

#### March 8-9, 2016 Southeastern Hay Convention- Moultrie, GA

The Southeastern Hay Convention is a statewide event to learn more about the management of hay and baleage, and new equipment and technology available to growers. The even will be located at the Sunbelt Ag Expo (290-G Harper Blvd., Moultrie, GA 31788 from 8:00 am - 5:00 pm.

#### March 10, 2016 Coffee/Atkinson Pecan Production Update- Douglas, GA

The key speaker will be Lenny Wells, Extension Pecan Specialist. Commercial and private pesticide credits will be offered. Meeting time: 12:00 pm – 2:30 pm. Location: Coffee County Extension Conference Room, 709 Ward St. E, Douglas, GA 31533. For more information please contact Mark von Waldner at 912-384-1402.

#### March 10, 2016 Insect Pest Management and Vegetable Gardening- Albany, GA

Learn how to raise your vegetables and keep them away from the pests that want them too. \$7.00 per class or. Meeting time: 6:00 pm – 8:00 pm. Location: The Candy Room. 125 Pine Ave, Albany GA 31701. For more information please contact James Morgan at 2294367216 or morganjl@uga.edu.

#### March 22, 2016 Managing Pest Naturally- Fayetteville, GA

Have you ever heard of Integrated Pest Management?, IPM for short? This is the best method for managing pests in your landscape. Come learn the principals of IPM and how you can apply them to your back yard. A brief discussion on beneficial insects will also be included. Event location: Fayette County Extension Office 140 Stonewall Ave. West Fayetteville, GA 30214 Fayette County Extension Office. Please call the Extension Office at 770-305-4512 ext. 7 to RSVP for this free program.

#### March 25, 2016 Northeast Georgia Soybean Production Meeting- Bowman, GA

UGA Extension Specialists will be discussing current and upcoming issues related to soybean production. Location: Bowman Community Center 209 E. Railroad Street Bowman, GA 30624. Time: 12:00 pm- 3:00 pm. Please rsvp by March 23rd by calling local Extension office.

### April 5, 2016 Blueberry IPM Field Day- Chambers Brothers Blueberry Farm, 2270 Fire Tower Road, Homerville, GA

The Extension and Research Scientists will showcase their findings on the farm, for all growers and industry personnel to see.

#### April 7, 2016 Vidalia Onion Research Field Day- Lyons, GA

Participants will be able to tour the UGA Vidalia Onion and Vegetable Research Center, and see the current Research Plots. The Extension and Research Scientists will showcase their findings on the farm, for all growers and industry personnel to see. Meeting Time: 12:00 pm – 2:30 pm. Location: UGA Vidalia Onion and Vegetable Research Center 8163 Hwy 178 Lyons, GA 30436. For more information please contact Cliff Riner at 912-565-7822 or criner@uga.edu.

#### June 14-16, 2016 Southern Region AAPSE Conference- Savannah, GA Southern Region Full Meeting and Port of Savannah Tour Registration:

Early Registration cost is \$200.00. This Registration is for the Conference and Tour of the Port of Savannah and includes Reception on the 14th, Breakfast, Snacks during morning and afternoon Breaks, and Lunch on June 15th (*Dinner on your own*); Breakfast (before the tour) and Bagged Lunch (during the tour) on the 16th (*Dinner on your own*). Registration cost beginning May 16, 2016 will be \$225.00. Meeting Registration will close on June 1, 2016.

#### Port of Savannah Tour Only Registration:

Cost is \$50.00. This registration is for June 16th, from 7:00 am to 1:30 pm. It includes Breakfast, Bagged Lunch, and Tour Recap (following the tour at the hotel). <u>Beginning May 16, 2016 Tour Only registration cost will be</u> \$75.00. Tour registration will close on June 1, 2016.

#### **Hotel Accommodations**

#### Holiday Inn Express Historic District Savannah

199 East Bay Street, Savannah, Georgia 31401 Hotel Direct/Reservations: (912) 231-9000

Hotel Rooms for the Conference will be \$159.00/night. Register by May 16, 2016 to ensure this rate.

**INDIVIDUAL RESERVATIONS**: Each individual guest will make their own reservations by calling **912.231.9000**, or toll free **1-800-Holiday**. They must identify themselves as members of the AAPSE Southern Region Conference Group. Or use the group code: **PSE**. All reservations must be guaranteed and accompanied by a first night room deposit or guaranteed with a major credit card. Reservations canceled after 24 hours prior to day of arrival will be charged for the first night's room and tax.

Guests can book on-line by going to <a href="http://www.hiexpress.com/redirect?path=hd-photos-tours&brandCode=ex&localeCode=en&regionCode=1&hotelCode=SAVEX&\_PMID=99801505&GPC=PSE">http://www.hiexpress.com/redirect?path=hd-photos-tours&brandCode=ex&localeCode=en&regionCode=1&hotelCode=SAVEX&\_PMID=99801505&GPC=PSE</a>. E nter arrival and departure dates, ensure the 3 digit Conference group code PSE is showing under Group Code and continue the reservation process.

Holiday Inn Express Historic District provides valet parking for registered guests at a charge of \$20 per day. Guests are not required to valet park with the hotel and are welcome to park at any of the nearby City of Savannah Parking Garages and pay them directly. The Hotel is located about 20 minutes from the Savannah/Hilton Head International Airport. There is not a dedicated shuttle service from the airport to the hotel but cabs are always available for a standard fee of \$28 and \$5 extra per person. Hotel amenities are described in this flier or you can visit their websitewww.savannahlodging.com for additional information.

# **Getting the Best of Pests**

The University of Georgia's College of Agricultural and Environmental Sciences

#### Be our guest to Get the Best of Pests. Join us for a free webinar on April 13th

**DATE:** Wednesday, April 13, 2016

**TIME:** 7:45 AM to 10:00 AM (EDT U.S.A); Webinars are 2 hours

**LOCATION:** Hosted online by the University of Georgia

**TITLES:** Where Vectors Collide: Determinants of Co-existence or Exclusion in Invasive *Aedes*, **Dr. Phil Lounibos**; Best Management Practices for Reducing Container Mosquitoes, a Public Health Menace and Backyard Nuisance, **Dr. Roxanne Connelly**.

PROMO: Web413

The University of Georgia's College of Agricultural and Environmental Sciences has developed an online, live, interactive training program that allows participants to obtain re-certification and reregistration credits virtually anywhere. You will need a computer with internet access, speakers or earphones, and a microphone (optional).

When you arrive at the Cart Check Out please enter the promo code **Web413** to the left in the PROMO CODE box provided. This will allow you to register for the webinar free of charge.

For questions, call Beth Horne (770-228-7214) or Dan Suiter (770-233-6114). We hope to see you on-line.

#### 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:

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