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.

Will Hudson

CAES Athens Campus
120 Cedar Street | Athens, GA 30602

Dr. Will Hudson is a native of Alabama. He earned his B.S. and M.S. degrees from Auburn University and his Ph.D. from the University of Florida, where his research involved the ecology and management of invasive mole crickets. Will took a job at the University of Georgia as an Extension specialist at the Coastal Plains Experiment Station (now the Tifton Campus, UGA) in Tifton, GA in 1988. He was initially responsible for insect management programs in the turf and ornamentals industries, a clientele he still serves today. In 2001 he added pecan pest management to his commodity responsibilities, along with permanent grass pastures and hayfields. He currently serves as Extension Coordinator for the Department of Entomology.

After 23 years in Tifton, Will moved to the main UGA Campus in Athens in 2011. In addition to his extension responsibilities, he also teaches courses in turf pest management, ornamentals IPM, and a graduate discussion course in IPM.

Current applied research projects include study of the biology and management of the invasive bermudagrass stem maggot, control of the pecan leaf scorch mite, and managing white grub pests in turf.

Will finds it interesting that being an entomologist is less helpful for trout fishing than most non-entomologists seem to think. ■

UGA IPM INFORMATION

Time to get social! Follow us on social media!

@UGAIPM

The submission deadline for the July newsletter is **August 27, 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.

IN THIS ISSUE

UNIVERSITY OF GEORGIA
EXTENSION
Integrated Pest Management Program

IPM PROGRAM LOCATION:
CAES Athens Campus
463 Biological Sciences Building
Athens, GA 30602

UPCOMING EVENTS

Aug 7 - Grower Informational Session: Brassica Carinata | 12:00PM | Madison, GA

Aug 9 - Home IPM Workshop | 9:00AM | Griffin, GA

Aug 23 - School IPM Workshop | 9:00AM | Griffin, GA

Aug 23 - Blackberry Production for the Home Gardener and Small Producer | 7:00PM | Eatonton, GA

Aug 29 - August Hay Day | 9:30AM | Culloden, GA

SAVE THE DATE

Sep 10 - What's New at UGA - A Virtual Tour of the UGA Gardens | 6:00PM | Jonesboro, GA

For more events, please visit the UGA Extension Calendar.

FEATURED CREATURE

Green Peach Aphid

(Homoptera, Aphididae)
(Myzus persicae) – Green peach aphid (GPA)

Description:

Immature stages – Nymphs are very similar to wingless adults in shape and color, but are smaller. Unlike most aphids, green peach aphids do not tend to form large colonies, but will generally be more evenly distributed across leaves.

Adult stages – Winged (alate) adults have a black head and thorax and a yellowish-green abdomen with a large dark patch in the middle of the abdomen as viewed from above. They measure about 2 mm in length, and, if found on vegetables, are rounded projections at the base of the antennae (tubercles) that point toward the midline of the head. These projections are on all stages. Wingless adults are yellowish, greenish, or reddish. The cornicles are long and colored similar to the body.

Biology:

Life Cycle – In vegetable crops in Georgia, winged adults invade fields and can do so throughout the production seasons. Both winged and wingless adults give birth to live young without mating (parthenogenetic reproduction) on vegetable crops. Under favorable conditions, the aphids develop through 4 or 5 instars in about 1 week and give birth to offspring shortly thereafter, with generation time as short as 10 to 12 days. Females are reported to produce 1.6 to 3.75 nymphs per day over a 15 to 20 day reproductive cycle.

Seasonal Distribution – Green peach aphids can invade fruiting vegetables throughout the spring and fall production season, but typically are more of a problem in cooler parts of the fall season.

Damage to Crop:

Green peach aphids can build large populations on a variety of crops. On young plants, they can cause wilting and stunting. The red GPA colonizes the flowering stalk of tobacco plants (bottom image). At harvest, they can represent a contaminant both through their direct presence and through production of honeydew which gives rise to sooty mold. In many crops, their greatest threat is transmission of viral diseases, such as cucumber mosaic virus (CMV, middle image). This species transmits over 100 plant viruses, persistent and non- persistent transmission. Adults and nymphs can transmit viruses, but winged adults are of greatest importance due to mobility. Mummified aphids, golden brown aphid shells, can indicate parasitism (top image).

Management:

Green peach aphids are generally controlled with application of insecticides; however, insecticide resistance has been widely documented in this species. The red phase of this pest is reported to generally be more difficult to control.

David Riley and Alton Sparks, Professor, University of Georgia, 2018 ■

GPAs and mummies

CMV symptom on pepper leaf

GPA in tobacco

[Return to Index]

FROM THE FIELD

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

Use of Spray Foam Insulation (SFI) may adversely impact a homeowner's ability to protect their home from subterranean termites

by Dan Suiter, Entomologist, University of Georgia – Griffin Campus

Subterranean termites cost U.S. homeowners billions of dollars a year to repair termite damage and to pay for costs associated with termite control.

The threat to homes and other structures by subterranean termites is greater in the Southeast than any other region in the U.S., and Georgia lies in the middle of what is commonly referred to as the "termite belt". Every county in Georgia has subterranean termites.

The employees of Georgia's 1,300 Termite and Pest Control firms are licensed (by the State of Georgia) and skilled in the protection of homes from attack by subterranean termites.

The most important component of any pest management program is the inspection. Inspections provide the pest management professional (PMP), and the property owner, the raw information needed to make sound, evidence-based decisions.

To conduct inspections for subterranean termites PMPs must be able to visibly see areas of the structure where termites are most likely to be present and/or areas where they might originate from their soil home. When these areas are not visible, live termites and evidence of their presence may remain undetected and undetectable.

Crawlspace construction is common in Georgia. Subterranean termites often enter and infest structural wood in crawlspaces by building mud access tubes over, and inside, crawlspaces walls and piers.

The Problem

Spray foam insulation (SFI) is applied to the inside of crawlspaces as an alternative to traditional building insulations, such as fiberglass. The foam can be sprayed to/into/under any construction element (Figure 1).

Figure 1: SFI may be applied inside crawlspaces as alternative to traditional insulation, hiding termite presence and damage.

Spray foam insulation may negatively impact a pest management professional's ability to detect the presence of subterranean termites, and their signs, when they are present. As a result, the application of SFI to crawlspaces may render existing termite control contracts void or prevent a company from providing future coverage.

Homeowner Options

1. If you have SFI currently installed in your home and have a pest control contract for termites or other wood-destroying organisms, contact your pest control company to review your contract.

2. If you are considering having SFI installed in your home, and have a pest control contract for termite or other wood-destroying organism, contact your pest control company and discuss the impact on your contract.

3. If you are having SFI installed in your home, consider requiring that the contractor install the SFI according to Georgia building code standards.

4. How do you determine if you have SFI installed in your home? Contact a building expert, such as a home building inspector, or an insulation contractor or pest management professional.

5.For more information, contact your local county extension agent by calling 1-800-ASK-UGA1, or the Georgia Department of Agriculture's Structural Pest Control Division at 404-656-3641. ■

[Return to Index]

FROM THE FIELD

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

House flies, maggots, and fly control

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

Flies are not a bad thing. Flies are nature's original and best recyclers. They help to biodegrade and compost organic material, returning nutrients to the soil for reuse. Unless their presence presents a true harm or sufficient nuisance, they should be left alone to accomplish this mission.

Organic decomposition is typically viewed as the purview of microorganisms, but bacteria, fungi, etc. work on a small scale. Typically their activity is limited to the surface of materials, near the substrate-air interface; anaerobic breakdown is less efficient and may produce more noxious by-products, such as undesirable odors. Insects assist microbial degradation by breaking up waste masses into portions more efficiently colonized and catabolized by microbes. Fly larvae are particularly well adapted for this function.

However, because of their mobility, adult flies are common pests around homes. In addition to the annoyance they produce by their mere presence, there is the potential for disease transmission as flies move from contaminated areas into our homes. While fly-vectored diseases are uncommon in North America and incidence of fly infection is low due to modern sanitation and hygiene, no one wants 'dirty flies' landing on their food.

Flies have complete metamorphosis with egg, larval, pupal and adult stages in their development. The female fly deposits her eggs in moist organic material. The larvae, or "maggots," develop in decaying organic material, with house flies developing in food waste, manure, animal carcasses, and similar decaying plant and animal materials

Adult house flies are mobile and good at locating decaying materials.

When maggots have completed their development and are ready to undergo the next step in their metamorphosis, they convert the last larval skin into the puparium, a hardened shell within which the pupa will develop. The pupa then transforms into the adult fly and the adult pops the end of the puparium and emerges. Employing internal pressure, the fly forces fluid out through the wing veins using hydraulics to unfold the wings, and allows them to dry and harden before it can fly. Under good conditions the egg to adult development may require only a couple of weeks. Once the female fly has mated, she can lay several batches of eggs, typically containing over a hundred eggs each.

The three foundations of fly suppression are source reduction, sanitation, and exclusion. "Source reduction," or elimination of larval habitat, is the preferred method of pest fly suppression. By removing the material in wh ich larvae develop, the life cycle of the fly can be broken, preventing subsequent production of the adult pests. Sanitation not only limits larval development sites, it reduces attractiveness (such as odors that lure flies) and prevents drawing flies in from surrounding areas. Common practices such as window and door screens prevent flies from entering our homes. While chemical pesticides may be necessary for reducing adult fly populations, they are no substitute for prevention via source reduction or the elimination of breeding sites. ■

[Return to Index]

AGENT ADVOCATE

Structural Pest Management Program series to aid Extension Agents

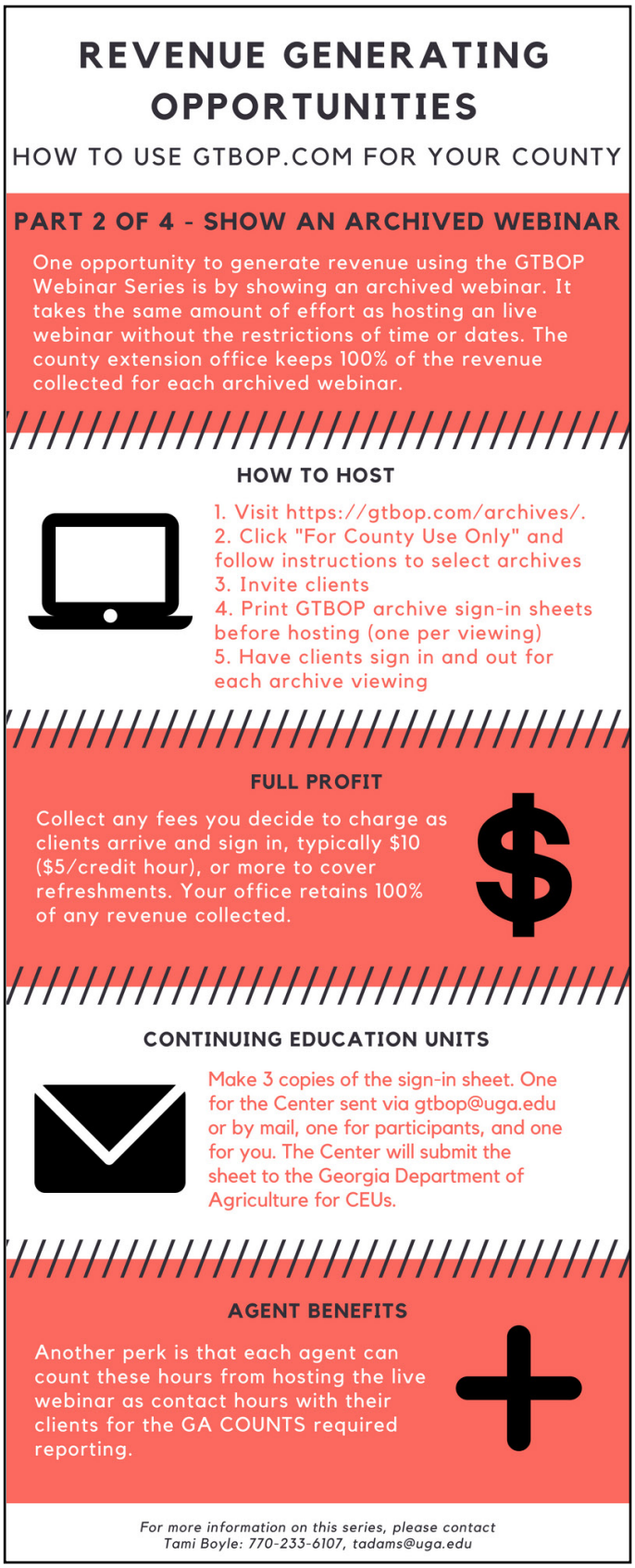
Need help generating a little extra revenue for your local Georgia County Extension Office? We have discovered it! The Center for Urban Agriculture (The Center) offers four opportunities for Georgia County Extension offices to generate revenue. In the next four issues of the IPM Program Monthly Newsletter, we will reveal the details for all four opportunities.

The Getting the Best of Pests (GTBOP) is a live webinar series that reaches out to the Georgia Green Industry offering CEU Category Credits from the privacy and luxury of a home or office environment. This GTBOP Green series saves companies time, travel and expenses and provides extension agents user-friendly, useful information and an opportunity to generate a little revenue right from their county office.

The GTBOP Green Webinars are offered on the 3rd Wednesday of every ODD-numbered month. (January, March, May, July, September and November.) These live webinars are accessed online, utilizing the web-based software, Go-To-Webinar, and are aired from 8:15 am to 10:45 am. For more information on the GTBOP Green Webinar Series or other programs that The Center offers, contact the Bodie Pennisi at bpennisi@uga.edu.

For more information on the workshops and other programs from the Structural Pest Management Program, please visit http://www.gabugs.uga.edu. ■

In the next issue, we will discuss combining the GTBOP webinar series with Agent trainings...



[Return to Index]

MEDIA MENTIONS

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

Ornamental education sessions follow UGA Turfgrass Research Field Day

by Sharon Dowdy

The University of Georgia Turfgrass Research Field Day is set for Thursday, Aug. 9, on the UGA campus in Griffin, Georgia. This year, two optional, interactive sessions especially designed for landscape experts will follow the field day.

The field day will be held from 8 a.m. until 2:30 p.m. at UGA-Griffin. For a $25 fee, participants can attend their choice of two in-depth horticulture sessions from 2:30 p.m. until 4:30 p.m.

Troubleshooting Ornamentals will be taught by Bodie Pennisi, professor of horticulture, and Greg Huber, training coordinator of the Georgia Center for Urban Agriculture. Participants will learn to spot signs of trouble in the landscape early, which is important to maintaining healthy and attractive plants, Pennisi said.

Stunted growth, discoloration, spots, lesions, holes and other symptoms can be caused by diseases, pests or nutritional problems. The first hour of the session will be focused on learning to identify the signs of trouble, and the second hour will be a hands-on look at a variety of common problems encountered among landscape ornamentals.

The other session option, Practical Tools for Identifying and Tracking Invasive Plants, will cover how to protect native plant habitats from invasive plants. Participants will also learn how to identify invasive plants. Timothy Daly, UGA Cooperative Extension agent in Gwinnett County, and Ben Ackerley, garden manager at Woodland Gardens, will lead the session on identifying invasive plants. Karan Rawlins, invasive species coordinator for the Center for Invasive Species and Ecosystem Health at UGA-Tifton, will teach participants how to use EDDMapS, or Early Detection and Distribution Tracking System, an app that helps citizen-scientists track and report invasive species.

Knowing why a leaf is covering with spots is the key to treating for the disease or pest. University of Georgia experts will teach participants how to identify landscape diseases in an up-coming workshop.

Two hours of category 24 Georgia Pesticide License Credit are available for attending either session.

Register the day of the event or by:

- Calling the UGA-Griffin Office of Continuing Education at 770-229-3477.
- Going online to www.GeorgiaTurf.com.
- Faxing the form to 770-233-6180.
- Visiting the UGA-Griffin continuing education campus. ■

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[Return to Index]

MEDIA MENTIONS

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

Row crop research to highlight annual Midville Field Day

by Clint Thompson

University of Georgia College of Agricultural and Environmental Sciences (CAES) researchers and Cooperative Extension agents and specialists will share current research on popular Georgia row crops at the 2018 Midville Field Day, set for Wednesday, Aug. 15, at the Southeast Georgia Research and Education Center in Midville, Georgia.

Extension specialists and agents will discuss their research on row crops like cotton and peanuts, row crop diseases, and planting depths and peanuts. The CAES Statewide Variety Testing program scientists will share information on the different row crops being researched.

Agriculture is Georgia's top industry, and the field day provides an environment for UGA researchers to share their work with the state's agriculturists.

"This is an exciting time every year because we can showcase research that impacts farmers here in southeast Georgia," said Anthony Black, superintendent of the research center. "We'll have some of the top agricultural scientists in Georgia here in attendance."

The Southeast Georgia Research and Education Center is a 719-acre research complex located at 9638 Highway 56 in Midville, Georgia. The facility focuses on research of Georgia-grown row crops, including cotton, peanuts, corn, soybeans, sorghum and alfalfa. Four full-time employees maintain research projects there for CAES scientists.

Registration begins at 9 a.m. The field day starts at 9:30 a.m. and will end at approximately 12:30 p.m. with a free lunch. There is no preregistration for the event. For more information, call 478-589-7472. ■

Jared Whitaker, UGA Extension cooton agronomist, speaks during the Midville Field Day in 2014.

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[Return to Index]

MEDIA MENTIONS

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

Spring freeze dooms Georgia blueberries for second consecutive year

by Clint Thompson

An early spring freeze cost Georgia's blueberry farmers as much as 60 percent of their crop this season, according to Renee Allen, University of Georgia Cooperative Extension agent for commercial blueberry production.

Growers suffered a loss in 2017, too, but were optimistic after plants received the proper number of chill hours for production during this year's colder winter. Unfortunately, in late February, temperatures soared, which caused the plants to bloom early and succumb to freezing temperatures in the first two weeks of March.

"When the temperatures started to go up in February, we got concerned because the plants started breaking dormancy … very consistently and all coming out at once, both the highbush and rabbiteye varieties," Allen said. "It was earlier than we would have liked, because at that point, we're not out of the woods in regard to the number of potential freezes that can occur."

Allen's fears were justified. According to the UGA Weather Network (www.georgiaweather.net), temperatures rose to 85 degrees Fahrenheit on Feb. 21 in Bacon County, Georgia, a top blueberry-producing county. Then temperatures dropped as low as 29 F on March 15.

There was sporadic loss across the blueberry farms in the southeastern part of the state, she said. Losses were determined by the temperature lows, the cold air and where it settled.

"I think people were optimistic about having more of their rabbiteye crop, but ultimately, when we had those warm, 80-degree temperatures in February, the plants started to bloom," Allen said. "When those blooms are out like that, they're just so susceptible to any freezing temperatures."

Just four years ago, in 2014, Georgia produced 95 million pounds of blueberries, according to Allen. This propelled Georgia to be No. 1 in blueberry production in the country. Because of last year's late-season freeze and warm temperatures in the winter, Georgia's production declined to 28 million pounds.

When they anticipate a freeze, Georgia farmers use frost protection, including overhead irrigation. After a freeze, applying plant growth regulators to protect the fruit is the only option.

Just four years ago, in 2014, Georgia produced 95 million pounds of blueberries, according to Allen. This propelled Georgia to be No. 1 in blueberry production in the country. Because of last year's late-season freeze and warm temperatures in the winter, Georgia's production declined to 28 million pounds.

"The mood's not very good. I think the growers' spirits are down. We've been hit hard two years in a row," Allen said.

To learn more about Georgia's blueberry crop, visit https://t.uga.edu/4ha. ■

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[Return to Index]

MEDIA MENTIONS

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

UGA crop geneticists awarded $935,000 to breed softer cotton and more resilient peanuts

by Merritt Melancon

The U.S. Department of Agriculture (USDA) National Institute of Food and Agriculture (NIFA) awarded University of Georgia College of Agricultural and Environmental Sciences (CAES) plant breeders almost $1 million in grants this fiscal year to produce improved cotton and peanut varieties.

These plant breeders have been tapped to make Georgia's most profitable row crops more sustainable and productive.

Searching for softer cotton

Regents' Professor Andrew Paterson, director of the Plant Genome Mapping Laboratory and member of the CAES Department of Crop and Soil Sciences and the Franklin College departments of Plant Biology and Genetics, and Peng Chee, his fellow crop and soil sciences professor, are pinpointing cotton genes that affect the length of cotton fibers.

Longer fibers lead to softer cotton fabrics and a higher per-pound price for farmers.

Paterson and Chee will focus on upland cotton, which is a common name for the cotton species most widely grown in the U.S. Georgia farmers grew more than 1 million acres and $967 million worth of upland cotton in 2016.

Upland cotton typically produces cotton with short or medium fibers, and those fibers can be even shorter if the cotton plant is stressed. However, mutations of upland cotton created by the researchers produce longer fibers.

Supported by a $490,000 NIFA grant, Paterson and Chee will map genes connected to superior fiber qualities in this mutated upland cotton. Eventually, they will incorporate those genes into cotton varieties known for their hardiness, productivity and efficiency.

"The long-term goal of the proposed project is to enrich genetic diversity and accelerate the breeding progress in the elite gene pool of one the most economically important and genetically vulnerable major U.S. crops: cotton," Paterson said.

For more information on Paterson and Chee's proposal, visit tinyurl.com/uplandcotton.

Looking to the peanut's roots

The average American eats about 6 pounds of peanuts a year. To meet that demand, farmers in Georgia grow more than 700,000 acres of the state's signature legume.

For each of those acres, farmers invest between $500 and $770 into seeds, pesticides, irrigation and herbicides. Tapping into the resilience of the peanut's wild ancestors should substantially bring down that per-acre price, said Soraya Leal-Bertioli, UGA senior research scientist.

The adult Longhorned Tick is only 1/8th inch long, while the immature tick would not cover the 'D' on the dime.

Bertioli, who worked with the international team of scientists that traced the evolution of the modern peanut to its wild ancestors in the Andes Mountains in 2016, received a $445,000 grant from NIFA to find the genetic traits that protected ancient peanuts from fungal and insect problems as well as other diseases.

"In the '60s, '70s and '80s, hundreds of wild peanut populations were collected from the wild and deposited in the USDA seed bank," she said. "Several studies show that these species carry resistance to pests and diseases that affect the peanut crop."

Most of these species have never been bred with modern varieties. By using modern techniques, Bertioli hopes to introduce these ancient, naturally-occurring resistance traits into modern lines of productive peanuts.

Breeding peanut varieties with the resistance of their wild relatives that can keep up with modern production levels will allow farmers to produce peanuts with fewer chemicals at a lower cost.

For more information on Bertioli's proposal, visit tinyurl.com/sustainablepeanuts. ■

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[Return to Index]

FUNDING OPPORTUNITIES

Southern Region IPM Center – Critical Needs and Emerging Issues

The submission deadline is December 31, 2018

This Request for Applications will fund projects that address a critical or emerging IPM issue of regional or national significance. The Center has a small amount of funding to help facilitate timely responses to critical issues, as an early regional response can lead to more timely and effective solutions. Our purpose is to provide a small source of funds that can be used to start work on new and critical issues, and to support projects that offer new and innovative solutions to emerging IPM challenges. For more information, please visit their website. ■

Southern Region IPM Center – IPM Documents

The submission deadline is December 31, 2018

This Request for Applications will fund projects that address the need for documents that accurately reflect the current state of Integrated pest management on a regional or national basis. IPM Documents may address crops or other (noncrop) settings for a single state or combination of states. Funding provided by the center are intended to help facilitate authoring of these documents including travel, meeting, and survey expenses associated with information gathering. Currently, 3 types of documents are recognized: Crop profiles (CP), Pest Management Strategic Plans (PMSP), and IPM Priorities. For more information, please visit their website. ■

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@UGAIPM

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.

[Return to Index]