



Southern Region IPM Center Annual Update

Prepared for the National IPM Committee Meeting, October 2010



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Two Individuals and One Group Receive “Friends of IPM” Awards This Year

Two individual integrated pest management specialists and one team were chosen to receive the 2010 Friends of IPM Awards.

The IPM Educator award went to Godfrey Nalyanya, school IPM Coordinator with NC State University. Louisiana IPM Coordinator Clayton Hollier will receive the Lifetime Achievement award, and the Florida A&M University Center for Biological Control will receive the Pulling Together award.



Front, L-R: Dean Abdullah, USDA ARS Administrator, Dr. Edward Knipling, Dr. Moses Kairo, Drs. Lambert Kanga, Jesusa Legaspi and Muhammad Haseeb. Back: Drs. Kenneth Bloem, Stuart Reitz and Stephen Hight

“Thank you for this exciting news!” exclaimed Moses Kairo, director of the Center for Biological Control (CBC), upon learning that his team had won the Pulling Together award. Based in Florida, the CBC unites experts from the College of Engineering Sciences, Technology and Agriculture and Florida A&M University; USDA Agricultural Research Service (ARS) and the Animal and Plant Health Inspection Service (APHIS). The CBC’s research focuses on the prevention and management of invasive pests, along with the development of ecologically based pest management.

In addition to authoring journal publications and educating people both within and outside of the university, CBC team members have developed IPM tactics and identified management options for agricultural threats such as western flower thrips, honeybee pests and invasive pests

not yet in the U.S. The diverse backgrounds of the team members, in addition to the variety of their accomplishments, earned them this year’s Pulling Together award.

Louisiana IPM Coordinator Clayton Hollier won the Lifetime Achievement award for changing the way Louisiana growers managed disease pressures.



From L to R: Jim VanKirk; Dr. Paul Coreil, AgCenter Vice Chancellor for Extension; Clayton Hollier; LSU AgCenter Chancellor Bill Richardson; Dr. David Boethel, AgCenter Vice Chancellor for Research

Hollier spent his first year at Louisiana State University teaching rice growers about IPM.

“His first agronomic audience was a small group of rice producers who had always used the ‘spray and pray’ method to manage fungal diseases,” wrote Lawrence Datnoff, head of the plant pathology department at LSU. “Clayton’s approach introduced basic scouting methods and the use of appropriate cultural practices that would reduce disease development.”

He has since educated growers of other crops about disease prevention through IPM. Wheat growers have seen savings each year of approximately \$10 million since 2000, when Hollier began working with them on IPM adoption.

Hollier delivers his method both personally and through media and Internet and has

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Seven 2010 Southern Regional IPM Grants Awarded



This year Southern Regional IPM grants funded 7 of 34 proposals for a total of \$830,029. Of the funded proposals, 4 were for research projects, 1 was for an extension project, and 2 were for combination research and extension projects.

The following list includes all of the 2010 Southern Region IPM awards:

- Developing New Techniques To Use in the Integrated Pest Management of Stable Flies (LSU AgCenter: Lane Foil, \$156,457)
- Oomycetocide resistance and Phytophthora disease management for the ornamental horticulture industry (Virginia Tech: Chuanxue Hong, \$129,906)
- Integrating Management of Soft Scales in the Southern Landscape (Clemson University, Juang-Horng Chong, \$153,896)
- IPMImages and BugwoodWiki: Tools and resources to support IPM education and implementation across the SER and Beyond (University of Georgia: Keith Douce, \$38,670)
- Developing biologically Based Management Strategies for Integrated Control of Sheath Blight in Southern Rice (Texas AgriLife Research: Xin-Gen Zhou, \$135,910)
- Development and implementation of a web application in support of the 'Profile' resistance management program (Clemson University: Guido Schnabel, \$54,040)
- Enhancing The Cucurbit Downy Mildew Forecasting System (North Carolina State University: Peter Ojiambo (\$136,150)

2010 Friends of IPM Awards (continued)



increased his audience by adopting non-traditional teaching techniques.

This year's Friends of IPM Education award goes to North Carolina

School IPM Coordinator Godfrey Nalyanya. Nalyanya took the reigns for the school IPM program in 2006, after former North Carolina IPM Coordinator retired. After a 2006 state law mandated integrated pest management programs in public schools, many school maintenance directors turned to NC State University specialists for help. Nalyanya

conducted school IPM workshops around the state and consulted with public school personnel about the basic principles of scouting, prevention, and low-risk management practices.

Although the school IPM mandate included no funding, Nalyanya rewarded school district personnel who implemented an IPM program. Every year, Nalyanya publicly recognized successful school IPM programs in an award program, complete with a plaque and a small cash award. Chris Mills, one of Nalyanya's award recipients, won the Friends of IPM Implementer award last year. Because of Nalyanya's efforts, 72 out of 115 North Carolina school districts have implemented an IPM program, reducing their costs for pest control as well as the number of complaints about pesticides and pest problems.

SRIPMC Awards the 2010 IPM Enhancement Grants

Again in 2010, the Southern Region IPM Center IPM Enhancement Grants Program was split into two parts. Part 1 included the Regulatory Information Network project (formerly state contact projects), IPM documents (crop profiles, pest management strategic plans, IPM priorities and IPM elements), and IPM working group projects. Part 2 included seed and capstone projects.

Separate Requests for Applications (RFAs) for Parts 1 and 2 of the IPM Enhancement Grants Program were released on December 14, 2009 with a deadline of February 15, 2010 for submitting proposals to the Center. Seven proposals (with 8 separate projects) requesting \$268,666 and 12 proposals requesting \$280,461 were submitted for Parts 1 and 2, respectively.

Grant Review Panels for Parts 1 and 2 of the IPM Enhancement Grants Program reviewed the proposals and met separately on April 6 and April 5, 2010, respectively, to evaluate proposals and make recommendations for funding to Center staff. For Part 1, 5 proposals (5 projects) totaling \$224,482 were approved for funding. Five proposals totaling \$114,623 were approved for funding under Part 2. A list of projects (and project directors) selected for funding for 2010, totaling \$339,105, is provided below.

PART 1:

Regulatory Information Network Project:

- Southern Region IPM Center Regulatory Information Network and Related IPM Documents (Mark Mossler, Fred Fishel, Mark Matocha, Darrell Hensley, Henry Fadamiro, Mike Weaver and Charles Luper)

IPM Documents Projects:

- Development of a Pest Management Strategic Plan for the Oklahoma Winter Wheat Industry (Tom Royer)

- IPM Documents for Texas (Mark Matocha)
- Virginia Specialty Crops At Risk Program - IPM Documents Development Project (Mike Weaver)
- Identification and Management Guide for Ticks of the Southern Region (Pete Teel and Janet Hurley)

PART 2:

IPM Seed Projects:

- Workshop for Developing a Cost-effective Rational Strategy to Detect Soybean Rust in the United States (Don Hershman)
- Tomato yellow leaf curl virus: A Rising Concern in Southeastern U.S. and Management Options (Rajagopalbabu Srinivasan)
- Developing an imported fire ant IPM module for the IPM3 Training Consortium (Kelly Loftin, Robert Wiedenmann, and Kathy Flanders)
- Exploring calendar sprays and spatial distribution of cereal leaf beetle to improve IPM in wheat (Dominic Reising, Jack Bacheler, Randy Weisz, Ames Herbert, and Francis Reay-Jones)

IPM Capstone Projects:

- Development, Production and Distribution of a Pocket-sized Field Instrument to Improve Stink Bug Management on Cotton (Jack Bacheler, Ames Herbert, Phillip Roberts, Jeremy Greene, and Michael Toews)

Dr. Danesha Seth Carley Joins SRIPMC



Dr. Danesha Seth Carley, our new Assistant Director, joins us from the NCSU Crop Science department, where she is Director of Environmental Physiology Field Studies with the plant physiology laboratories. With a masters degree in entomology and plant pathology and a double Ph.D. in plant pathology and crop science, Danesha has a strong background in applied research and IPM. In fact, in her previous position, she supervised the design of NC State's new Lonnie Poole Golf course, choosing elements that would help conserve water and reduce pesticide inputs.

Danesha is working several projects with SRIPMC. First, she will work on Transition

Plans for the National Plant Disease Recovery System (NPDRS) through the USDA Office of Pest Management Policy. She is also working with USDA Natural Resources Conservation Service on the Conservation and Environmental Assessment (CEAP) Project.

Danesha will also head up SRIPMC's evaluation efforts, beginning with a call for reports from past IPM Enhancement Grant projects.

When she's not doing work for SRIPMC, Danesha is teaching people about IPM. She teaches the graduate-level IPM course at NCSU, instructs middle and high-school students about IPM and ecology on the Lonnie Poole, and manages the continued design of the course.

Mid-Atlantic Researchers Discuss Slugs



Slugs are rapidly becoming a major pest problem in the Mid-Atlantic region, affecting corn, soybean, small grain and vegetable cropping systems. A recent survey of crop and soil science extension agents in Virginia indicated that slugs had a significant impact on corn and soybean crops in Virginia this year. Nearly one quarter of survey respondents indicated that more than 20% of the corn in their counties was impacted, and 6% of the agents told us that more than 20% of the soybean acres were affected. Similar levels of slug damage have been recently reported from areas of Pennsylvania, Maryland and Delaware.

The economic impact of slugs in the region is significant, as nearly 30% of agents reported that at least 100 acres of cropland in their counties required replanting due to slug defoliation and stand loss. In many cases, well over 500 acres of land required replanting. The greatest potential threat, however, is to no-till systems in the region. When asked if farmers in their counties would take their land out of no-till to try to alleviate slugs, over 50% of agents said "yes." According to Virginia IPM Coordinator Ames Herbert, the amount of sediment loading that would be caused by conventional tillage would be unacceptable.

On January 27, 2010, representatives from Virginia, Maryland, Delaware, Pennsylvania and the Natural Resources Conservation Service (NRCS) gathered for a meeting in Richmond, Virginia. The intent of the meeting was to determine short-term and long-term goals,

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Southern Region Crop Profiles, PMSPs and Elements (September 2009 to September 2010)

Crop Profiles completed

- Alabama Peaches
- Florida Muskmelons (revised)
- Florida Eggplant (revised)
- Florida Strawberries
- Kentucky Canola
- Kentucky Wheat (revised)
- Kentucky Nursery Crops (revised)
- Georgia, Kentucky, North Carolina, South Carolina and Tennessee Nursery Crops (new)
- Tennessee Apples (revised)
- Tennessee Peaches (revised)
- Texas Cantaloupes and Honeydew Melons
- Texas Potatoes
- Virginia Grapes (revised)

Pest Management Strategic Plans completed

- Georgia, Kentucky, North Carolina, South Carolina and Tennessee Nursery Crops (new)
- Florida Sweet Corn (new)
- Mid-Atlantic states honeybees (revised)
- Virginia & North Carolina Christmas trees (new)

IPM Elements

- Mid-Atlantic Honey bees (revised)
- Virginia & North Carolina Christmas Trees (new)

Slug Workshop (continued)

discuss existing and future slug research and formalize a Slug Management Working Group. The group decided on the formal name, "Mid-Atlantic High Residue Cropping Systems IPM Working Group," or HRIPM.

The group decided on six goals:

1. Determine the efficacy and economics of slug bait applications and other control strategies
2. Develop keys for slug species identification in the Mid-Atlantic
3. Determine where and when to apply treatments based on the factors driving slug populations, distribution, and damage
4. Evaluate different planting date strategies in corn
5. Obtain information, via a producer survey, to determine extent of the problem and practices that might contribute to risk
6. Find local funding resources for agents to accomplish field activities

The group also decided on objectives to be achieved in 2010:

1. Send grower surveys developed at Pennsylvania State University to the working group for review. The finalized version will be mailed to commodity groups and other grower groups.
2. Review 2010 funding possibilities through commodity boards and NRCS.
3. Focus on field surveys and develop protocols for sampling methods for documenting slug populations and possible risk factors.
4. Develop a repository and/or blog for photographs
5. Select corn and soybean sites to survey within Delaware, Maryland, Pennsylvania and Virginia.
6. Formalize the working group by creating a mission statement and white paper; expand membership
7. Coordinate the development of a larger grant proposal targeting a 2011 submission date.

SRIPMC Collaborates with NRCS



Earlier this year, SRIPMC entered into a new collaboration with the Natural Resources Conservation Service.

The two agencies are partnering on the Conservation and Environmental Assessment (CEAP) Project, a multi-agency effort to quantify the environmental effects of conservation practices and programs. Data collected will also be used to develop the science base for managing the agricultural landscape for environmental quality. Dr. Danesha Seth Carley has been working with the IPM data and helping to facilitate data analysis related to IPM practices in each of the ten watershed regions.

Project findings will be used to guide USDA conservation policy and program development and help conservationists, farmers and ranchers make more informed conservation decisions.

The first report for the efforts of the 4 year survey conducted by the NRCS has been released. This survey uses a sampling and modeling approach from data from representative crop fields, and farmer surveys to estimate impacts of conservation practices on the environment for the Upper Mississippi River Basin. <http://www.nrcs.usda.gov/technical/NRI/ceap/>

...And Continues Other Partnerships that Help Protect Growers

SRIPMC is working with the National Plant Disease Recovery System (NPDRS) and the USDA ARS Office of Pest Management Policy on Recovery and Transition Plans.

The National Plant Disease Recovery System is part of Homeland Security Presidential Directive Number 9, issued in February of 2004. The purpose of the project is to develop recovery plans for policymakers on new agricultural diseases or potential bioterrorism threats to agriculture. The plans contain a background on the commodity, details about the disease and how it has impacted crops in other countries, and a summary of ways to address the disease. Last year, SRIPMC managed \$90,000 in subcontracts for this grant; this year, we are managing \$95,000 in subcontracts.



Soybean cyst nematode infection on soybean plants

Dr. Danesha Seth Carley is the grant manager for this project.

SRIPMC and NPDRS (continued)

2010 NPDRS Subcontracts:

UC Riverside – Developing a National Recovery Plan for Plant Disease caused by Root-knot and Cyst Nematodes – \$19,400. PI: Ole Becker

Oregon – Developing a National Plan for Tree-Ornamental Phytophthora Diseases caused by Phytophthora spp. - \$24,852. PI: Jennifer Parke

Perdue – Developing a Matrix for the Selection of Recovery Plans in the National Plant Disease Recovery System – \$22,600. PI: Ray Martyn



Transition Plans

SRIPMC is working with the Office of Pest Management policy to develop pest management transition plans. Transition plans help to develop alternative pest management tools for agriculture, particularly in the event of regulatory change. Projects from these contracts promote the development of risk mitigation plans and transition plans for each commodity, to reduce the impact of pesticide regulation.

Dr. Danesha Seth Carley is grant manager for this contract.

2010 Transition Plan Subcontracts:

Mississippi State – Alternatives to Methyl Bromide to Control Mites on Processed Ham - \$20,500 PI: Wes Schilling



ipmPIPE Update 2010

The ipmPIPE system continues to evolve. Use of this approach and funding to support it continues to change, sometimes in unanticipated ways. Here is current information about each of the components, funding, and leadership:

Components:

- Asian soybean rust (SBR). The original ipmPIPE component, SBR, had an unusual year. USDA grants did not provide funding for field monitoring of any kind this year. The Soybean Check Off (USD



and NCSRP) provided considerable funding for this purpose, around \$350,000. There may be some state-level grower support, and there certainly is direct contribution of time and expertise by

Extension specialists and others. The 2010 growing season has had the fewest reports of SBR infestation in the field since the pathogen first arrived in the US. The most important explanation is that overwintering inoculum was largely wiped out by last winter's frosts in the deep South. The SBR component is now coordinated by Dr. Ed Sikora, Auburn University, with Dr. Loren Geisler, University of Nebraska, Lincoln.

- Soybean Aphid: The soybean aphid component was discontinued prior to this season.
- Legume: The legume component was supported through RMA funding administered through the Western IPM Center. The project is led by Dr. Howard Schwartz, Colorado State University, and Dr. Marie Langham, South Dakota State University. The website <http://legume.ipmpipe.org> has been improved and expanded, and scouting of several diseases on several legume crops con-

tinues. This component has received funding of approximately \$340,000 for the 2011 season from RMA.



- Cucurbit Downy Mildew (CDM), with leadership from Dr. Peter Ojiambo, NCSU, is nearing the completion of its final season with support from the 2008 ipmPIPE project. Website: <http://cdm.ipmpipe.org>. Dr. Ojiambo recently was awarded a Southern Regional IPM (S-RIPM) grant that will carry the program forward for at least another season.



- Pecan nut casebearer (PCN): Dr. Marvin Harris, Texas A&M University, leads the Pecan PIPE. Like the CDM ipmPIPE this component is currently in its final year of funding from the 2008 ipmPIPE project; however, substantial funds remain and Dr. Harris is currently pursuing a no-cost extension to continue through the 2011 season. This project is also slated to receive \$30,000 - \$50,000 of new funds targeted toward expanding the component to deal with the pathogen pecan scab (*Cladosporium caryigenum*).

- Southern corn rust: This disease caused by *Puccinia polysora* is addressed by a new component to ipmPIPE, with a website at <http://scr.ipmpipe.org>. Dr. Bob Kemerait, University of Georgia, took initial leadership in this effort and has since been joined by other Extension specialists. Funding to date has been on a



ipmPIPE Update (continued)

shoestring, with small amounts scraped from a couple of ipmPIPE projects to support the initial website development, and Extension specialists providing field data.

- Onion, LBAM and SWD: Coming soon. See below.

Funding sources:

- The ipmPIPE 2008 grant, funded by USDA-RMA through a contract with NCSU, is winding down. Funds for field monitoring of SBR were exhausted at the end of the 2009 season. This has primarily been used in 2010 to support the CDM and Pecan ipmPIPEs, both of which were originally funded through a competition within this project.
- The Soybean Check Off has supported monitoring for soybean rust for several years, and in 2010 was clearly the most important single source of such funds. Funding decisions are made on an annual basis, so no commitment has been made yet for the 2011 season.
- USDA/RMA has recently committed approximately \$1,000,000 for the Western Specialty Crops PIPE, with Oregon State University as the lead. This project will focus first on the light brown apple moth (LBAM) and spotted wing drosophila (SWD), with possible future effort on European grapevine borer.
- USDA/RMA has also committed to approximately \$340,000 for continued work through the 2011 season on the Legume ipmPIPE, and \$30,000-\$50,000 for expansion of the Pecan ipmPIPE to include Pecan scab.
- USDA/NIFA has committed approximately \$115,000 for IT and related PIPE infrastructure and approximately \$68,000 to support other programming infrastructure and to facilitate the ipmPIPE Steering Committee.
- Dr. Howard Schwartz, Colorado State University, was awarded almost \$3,000,000 through the 2010 Specialty Crops Research Initiative for the project *ipmPIPE & Innovative Disease Diagnostic Tools for Onion Growers*. Field work for this multi-state project will commence in the 2011 growing season.



Apartment Residents in Houston, TX Learn About IPM Through Healthy Homes

By Mike Merchant, Entomologist, Texas AgriLife Extension

Anyone who has ever visited a public housing complex knows the value of good pest control. Cockroaches, rodents and bed bugs are frequent companions of many residents of publicly funded housing. Take high turnover rates among tenants, mix with poor understanding of pests and sanitation, and add low-bid pest control—you'll have a recipe for pest problems that is hard for the most diligent property manager to solve.



Nancy Crider's enthusiastic teaching style kept students focusing on residential IPM.

When Nancy Crider of the University of Texas Center for Public Health and I were approached about doing IPM training in public housing by Allison Taisey of Cornell University, and the Northeastern Regional IPM Center, we both jumped at the opportunity. Nancy is working on her Ph.D. in public health with dissertation research on IPM implementation in public housing. SRIPMC Associate Director Steve Toth joined us for the training.

Nancy arranged for our first IPM training to be conducted at the Lyerly apartments in Houston, Texas. Lyerly is an elderly high-rise. Well kept on the outside and inside, one of Lyerly's biggest headaches is pest control. Beyond the clean, shiny hallways, many of the units are plagued with German cockroaches. One of the residents we met the day before training suffers from breathing difficulties, but her

hospitality is warm and genuine. As we stepped into her well-decorated apartment, it didn't take long to see that she had problems. Cockroaches skittering along cabinets, behind the refrigerator and even in living room furniture, we decided, were not doing her health any good.

Fortunately the site manager is committed to bringing a better IPM program to her property. Ava invited us to train her staff and residents about IPM. The one-day training we provided was developed by the National Center for Healthy Housing and funded by the Department of Housing and Urban Development (HUD) Office of Health Homes in cooperation with USDA.

The NCHH curriculum is thorough but practical, and includes a walking tour in the afternoon. One of the best teachable moments of the day came after our classroom lesson on cockroach control. During the lesson we talk about where cockroaches prefer to live, and how to inspect for problems. But it wasn't until we visited a seemingly clean and empty apartment that the lesson really sank in. Nancy peeled back the gasket on the refrigerator door and dozens of German cockroach nymphs scurried from the gaps where they had been waiting patiently for the next tenant to move in. Custodial staff were aghast and even tenants gained a better appreciation of how thorough a cockroach search-and-destroy mission must be.

A great new video training resource is available for download at the website for the [Northeastern IPM Center's website for IPM in public housing](#). Written by Taisey, the video is called [The Tenant's Role in IPM](#). It's about 15 minutes long and includes actors posing as housing manager and tenant. Together they learn about cockroaches and bed bugs, and the tenant's role in IPM. Anyone interested in obtaining the materials we used can download them at <http://stoppests.org>.

IPM in the News

The following articles about Southern region IPM projects have appeared in national or state publications:

“Greener Buildings,” *PCT Magazine*, October 2009 (Project: IPM and Green Schools Workshop, 2008). Co-written by Mike Merchant (Texas AgriLife Extension) and Rosemary Hallberg

“A Fresh Look at Stink Bugs,” *Cotton Grower*, November 2009 (Project: Field Guide to Stink Bugs of Agricultural Importance in the Upper Southern Region and Mid-Atlantic Region, 2008 IPM Enhancement Grant)

“Growers and Researchers Meet to Develop a Pest Management Strategic Plan,” *Nursery Management & Production Magazine*, January 25, 2010 (Project: Multi-State Crop Profile and Pest Management Strategic Plan for Nursery Crops, Amy Fulcher et. al, Kentucky State University, 2009 IPM Enhancement Grant)

“Managing Rot,” *American Fruit Grower*, February 2010 (Project: Reduced-Risk Pre- and Postharvest Management of Multiple Fungicide -Resistant Populations of the Peach Brown Rot Fungus *Monilinia fructicola*, Harald Scherm, University of Georgia, 2009 Southern Regional IPM grant)

“A Wild & Woolly Battle,” *Wildlife in North Carolina*, March 2010 (Concerning the Alliance for Threatened Forests)

“Bee-Plus,” *Florida Grower*, April 2010 (Project: Developing an IPM Program to Control Small Hive Beetles in Bee Hives, Keith Delaplane, University of Georgia, 2007 Southern Regional IPM Grant). This article was also translated into Spanish for *Productores de Hortalizas* in April 2010.

New Blog

This past fall, SRIPMC began a new blog: IPM in the South (ipmsouth.com). We cover a broad range of IPM issues, from short posts about research projects (Alabama rotation project) to more involved series about IPM topics such as invasive species, bedbugs, herbicide resistant weeds and more. Our most popular topic was in February (238 visits), about the IPM Centers being left out of the President’s budget, followed by lionfish (147 visits) in September.

We also have a Twitter account (twitter.com/southernipm), which we use for short general communications and for news, and we have 88 followers.

Advisory Council Member Changes

SRIPMC has several new members on its Advisory Council:

Charles Allen, IPM Coordinator, Texas
Wanda Almodovar, IPM Coordinator, Puerto Rico
Tom Royer, IPM Coordinator, Oklahoma
Paul Smith, IPM Coordinator, Georgia