



PESPWire

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Fall, 2012

Impact of Hurricane Sandy on New York City's Rat Population

In its wake, Hurricane Sandy left tremendous physical, emotional, and financial devastation throughout the Central Caribbean and Northeastern United States. Those with an interest in pest management have been intrigued by news coverage after the late October storm describing scenarios in which rats displaced by flooding run rampant and spread disease throughout New York City.



Photo: [StickEbeak](#) @Flickrriver.com

EPA talked with internationally recognized rodent specialist Robert "Bobby" Corrigan of RMC Pest Management Consulting based in Richmond, Indiana to get his thoughts on the situation. Dr. Corrigan has extensive national and international experience with rodent populations in urban environments including New York City, as well as general experience with rodent population behavior during and after storms.

Dr. Corrigan started the discussion by dispelling the myth of subways being the "mega-home" of the city rat by stating; "In modern day cities, like New York and others, rats are opportunists in their use of city. They will move into protective harborage that are not just exclusive to subways. Others include sewers, sub-street defunct pipes, parks, basements and in some areas, where trash is abundant, even below the everyday sidewalk cavities that people walk upon daily." In fact, each urban neighborhood can have a different "rat profile" which depends on a range of complex physical and environmental factors that dynamically interact.

(...See Sandy & NYC's Rats on page 2)

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Past issues at epa.gov/pest/news/

Got Mice? Seal, Trap, and Clean to Control Rodents

Information and photos for this article courtesy of the [Centers for Disease Control and Prevention](#)



It is getting colder outside - rodents may enter your home for food or shelter.

Seal up holes and clean up any sources of food or water and items that might provide shelter for them.

Mice and rats are pesky critters that can enter your home through small holes or gaps. Mice can squeeze through a hole the size of a nickel, and rats can squeeze through a hole the size of half of a quarter!

Worldwide, rats and mice are the cause of over 35 diseases. In the United States, rodents can spread diseases like hantavirus pulmonary syndrome, rat-bite fever, leptospirosis, and lymphocytic choriomeningitis virus (which poses a particular risk for pregnant women).



(...See What to Do About Rodents on page 3)

Sandy & NYC Rats (Cont'd)

Is it true that flooding in the subway system could cause rats to relocate into occupied buildings?

Corrigan remarks that “baby rats not yet ambulatory perish for sure if their nests become submerged. Some flushed rats will swim for their lives and survive. Among the better swimmers who do survive and make it to ‘dry ground’, some of these may still not be able to find suitable shelter and

easily accessible food quickly enough and will perish from displacement stress, or other calamities. But yes, it is probable that some rats will be successful in riding the storm out and in adapting to new places if there is also the resources they need (e.g., garbage). It’s case by case; block by block.”

Can we expect an outbreak in diseases carried by relocated rats? “The epidemiology of pathogens ... their reservoirs, vectors and transmission ... is far beyond rats being flushed out of their hiding places from storms and hurricanes. If disease pathogens are not prevalent prior to a surging storm, they are not likely to suddenly increase in a massive outbreak in a modern city. The potential might be greater in a third world country city perhaps. But here, as with other major hurricanes and floods (Irene, Katrina, etc), rodent-borne disease outbreaks did *not* occur.

So there is no reason to assume they will occur with Sandy. But that doesn’t mean city health officials in any city can or will let their guard down” says Corrigan.

It will take weeks for the effects of Hurricane Sandy on the rat population to become apparent. Similar to Katrina, there has not been any immediate increase in rat complaints inside apartments and other occupied structures. Dr. Corrigan’s initial impression is that Sandy

“I personally have not experienced the subways being the NO. 1 infrastructure associated with rats” ~Dr. Corrigan

has *negatively* impacted many of the subterranean populations of rats that

could not get to higher ground quickly enough. “Each day forward might bring different news, but as of October 31st, there have not been ‘hoards of rats’ displaced to the streets and running about as some are worrying about.”

The information relayed by Dr. Corrigan supports the assertion that while there may be some displaced rats looking for a new home, it is unlikely that a significant overall increase in rat infestations will occur as a direct result of the Sandy. For a short period of time, displaced rats may be seen

in areas they did not previously inhabit. Alternatively, some established rat colonies may vanish entirely.

Of course, Mother Nature always has the last word on the many variations of animal populations and their responses to climatic events and catastrophes.

If and when you experi-

ence a rodent infestation, the EPA provides a great deal of rodent control information here:

www.epa.gov/opp00001/controlling/rodents.htm



Dr. Corrigan inspecting for possible rodent entrances

What to Do about Rodents



Rodent droppings

Clean up safely.

If you find signs of rodents or their droppings in your home, take precautions to [clean up the area safely](#).

Seal holes or gaps in your home to prevent rodents from returning.

Fill small holes with steel wool. Rodents can chew through expanding foam easily, so use only with the steel wool. Put caulk around the steel wool to keep it in place. Use lath screen or lath metal, cement, hardware cloth, or metal sheeting to fix large holes. These materials can be found at your local hardware store. Fix gaps in trailer skirtings and use flashing around the base of the house. If you do not remember to seal up entry holes in your home, rodents will continue to get inside. Outbuildings and garages should also be sealed.



Sealing a hole on the exterior of a house



Trap rodents in and around your home using an appropriate trap.

Always place the traps perpendicular to the walls in the normal pathway of the rodent. Look for fur, droppings, and grease stains to determine their path. More information on choosing and placing traps can be found at cdc.gov/rodents/prevent_infestations/trap_up.html



Clean up any sources of food or water, and items that might provide shelter for rodents.

Rodents love clutter - especially cardboard boxes. Rodents will also find any food that has not been properly stored, and leaking pipes can provide an easy water source. If the rodents are without access to food, water, or shelter, they'll have no reason to be in your home.

Photo: Faith Oi, Univ. of Florida



Keep food in thick plastic or metal containers with tight lids



Did You Know?

To prevent a recurrence of rodents, you need to look beyond your home to the surrounding area for potential nesting sites. Elevate hay, woodpiles, and garbage cans at least 1 foot off the ground. Move woodpiles far away from the house (100 feet or more). Get rid of old cars and tires that rodents could use as homes. Keep grass and shrubbery within 100 feet of the home well trimmed.

Integrated Pest Management at the University of Arizona

Interview with Al Fournier



We welcome Dr. Al Fournier, Program Manager of the University of Arizona Pest Management Center (APMC).

Please tell our audience of parents, teachers, school administrators, and pest management professionals about your organization, and your role with their IPM program.

The University of Arizona Pest Management Center (PMC) is an organizational structure, an umbrella for everything we do in the Arizona Cooperative Extension related to IPM. This program has been highly effective and is unique. My role is to coordinate the various team efforts to develop and implement IPM programs for both urban and agricultural settings.

Our PMC includes all the faculty and personnel involved in IPM, working with schools, and communities, working with growers of all kinds of crops. We have a full relationship with all stakeholders, and we invest time and resources to identify their needs. We work with them to develop applied research and solutions, and are involved in research focused on problem solving for their PM problems. We keep their perspectives, challenges and barriers in mind and have individual teams focused on different elements.

Do tell us more about the IPM Assessment Team that you lead and how it impacts IPM implementation.

We are part of an "Extension IPM Implementation" program. Our focus is evaluation – developing tools and resources and approach to measure adoption impact, measurement indicators that would lend strength to the value of adopting IPM. For example in Agriculture, Pesticide Use Records is a database used to track historical changes and trends in pest management of different crops across counties. This tool can be used as part of agricultural program. Another tool would be development of survey methods to evaluate an IPM program in schools. To

my knowledge, this kind of approach with individual teams organized under a larger structure, with an IPM Coordinating committee, multidisciplinary teams, plus external stakeholders that serve as a Steering Committee to guide our efforts, provides a structure that is unique among the land grant universities in the US.

Can you describe how the APMC program research helps with IPM implementation?

Most all of our research is funded through federal and state grants that are sensitive to the fact that research needs to have an applied focus; needs to be involved in short-term problem solving. Involve the stakeholders in the design of the research. For cotton, for example, will do demonstration plots – we will work

"We have a full relationship with all stakeholders ... We keep their perspectives, challenges and barriers in mind..."

with grower, manage 1/2 of the field our way, and have you manage your part – and compare the benefits to the different ways. And in the fall we'll have a field day – have folks look, compare, and learn about IPM when it comes harvest time. How is it different, what are the benefits?

Who are your customers?

On the agricultural side – our audience is growers, pest control advisors, and pesticide applicators. On the community side – schools, public housing, and master gardeners. We have a core of volunteers who are master gardeners who serve as first line of community IPM trainings. They can route to specialists. Other target audiences include parks and recreation personnel, turf management, weed management personnel and custodians in schools, all of whom are involved in pest management.

Please share some of your Program Highlights.

Here are some examples:

Vegetable IPM Updates: In January 2010 the Vegetable Crops IPM Leadership Team began putting out the Veg IPM Updates on a biweekly basis. These updates deliver timely information to end-users via web, email and smart phone. The team delivered 26 biweekly updates

this funding period, each one with information on insect, disease and weed management topics. These reached over 450 Arizona and California stakeholders by email list, and at least 300 stakeholders via the Arizona Crop Information. The same team has produced and posted 27 vegetable IPM videos to date and created a video archive webpage at <http://ag.arizona.edu/crops/vegetables/videos.html>. Stakeholders have responded with enthusiasm about the quality and timeliness of these updates. We have seen a steady increase in attendance at educational meetings and a 2-fold increase in listserv membership for Veg IPM updates.

Field Crops IPM Shorts. The Field Crops IPM Leadership Team have followed the tradition of the Vegetable IPM Leadership Team in producing short, timely advisory pieces on field crops pest management and getting

these out to the broadest audience possible. Starting in June 2011, they began producing "Field Crops IPM Shorts" on a weekly basis. Each "short" is a one-page article on a timely topic of interest that includes photos, data and/or graphics. Topics have included natural enemies of cotton pests, selective insecticides, cotton pest thresholds and sampling techniques, and a guide to glyphosate products for weed control. The pieces go out weekly to at least 360 stakeholders via agent email lists, and have also been picked up and redistributed by Western Farm Press while some pieces have been distributed by the National Cotton Council and Southwestern Farm Press, reaching many tens of thousands of readers. The pieces are archived on the ACIS site at http://ag.arizona.edu/crops/cotton/agronomic_ipm.html. Since June 2011, we have produced 25 Field Crops IPM Shorts, plus an additional 10 translated into Spanish.

What message would you like to convey in closing?

Our program goals are to change behavior, help manage risk, and for farmers to thrive economically. It's summarized well in our APMC Mission Statement (<http://cals.arizona.edu/apmc/>)

PESP Member Spotlight: NaturZone Pest Control

NaturZone Pest Control was founded in 1988 with the primary philosophy of using the least toxic pest controls and implementing the basic principles of IPM. The company was bought in 2004 by **Doug Longfellow**, a more than 20-year



Doug Longfellow

veteran of one of the larger UK-based pest management companies. Doug now serves as NaturZone Pest Control President, and manages the company at its headquarters in Sarasota, Florida.

He has expanded on the early philosophies of IPM by building the company up to qualify as a PESP Gold Member. He maintains that two of his major strategies: implementing “green IPM” and hard, consistent work, have paid off in growing revenues year-to-year. Below is a brief Q&A with Doug.

Q. How did you become knowledgeable about IPM?

I became aware of IPM because a competitor who I respected was involved with it. At the same time, I was looking for ways to give our green program more credibility to the public. As the green movement takes hold, I wanted to find strategies to demonstrate our green program, its credibility, and its effectiveness, to the public.

Q. What approaches do you take to educate on IPM?

We focus a larger proportion of sales in education where we find it very useful to belong to the trade associations such as Building Officers Management Association (BOMA). At these and other associations, we put on educational seminars to property and facility managers responsible for commercial building pest management control practices.

We have “why to’s” and “how to’s” about IPM in our seminars. Topics can include, but aren’t limited, to “why and how to properly conduct a pest inspection,” “things that most attract pests,” or “tips in maintaining a property to minimize pest infestations.”

“Educate the client that IPM is a shared responsibility, not just the pest control guy’s job.”

It takes a lot of continuous education to keep property and facility managers up to date and ahead with IPM and the latest techniques. We also hand out pamphlets.

Q. What new technologies are you incorporating into your IPM approaches?

The major thing we are now doing is to move away from pesticidal treatment to heat remediation in the removal of bed bugs. It takes too much pesticide application to get rid of bed bugs otherwise.

Q. What trends have you noticed in Florida regarding infestations?

The major problem we have in Florida is invasive ant species. Basically, these are a species that can create super colonies which we call around here the “Caribbean Crazy Ant.”

These ants multiply at such a rate that they can take over a landscape. Even if we put pesticides around a building structure, and ants die, the remaining ants who are living will build a “bone bridge” of the dead ants.

They will then cross the bone bridge and get into the building structure. For our clients who have nearby adjacent areas of woods, it is particularly difficult. We don’t have an answer quite yet. So, we’re experimenting with the University of Florida on different techniques and strategies.

Q: What advice do you have for other pest management professionals?

IPM is something we, as an industry, we need to embrace. We need to better demonstrate to the public that they have many viable options for pest management - and do not have to always resort to spraying chemicals.

Additionally, we need to demonstrate to the public our standards. In that regard, we have our own in-house training program for our technicians.

We also adapt and certify in the national IPM association quality program as well as PESP gold membership. This is

because we want to use, implement, and communicate that

we have the highest standards of operations possible. Our business is audited so that we demonstrate we have the credentialing to be operating an IPM-related pest management business.

Q. What advice would you give to clients about pest proofing their buildings as they prepare for fall and winter?

Similar to IPM, I would recommend the following these steps:

- Inspect and monitor buildings before any treatment.
- Prevent infestations with exterior inspections and treatments at the appropriate levels to prevent bugs from coming in.
- Pest-proof the outside of buildings - keep cracks and slits in a building structure closed; do a door sweep for large doors that are kept open.
- Educate the client that IPM is a shared responsibility, not just the pest control guy’s job.

We also have to educate our technicians - not only on what to say, but how to communicate these messages in a non-offensive manner to customers.

What is different with IPM is that the methodology forces a reliance on communication, education, and teamwork.

For more information:

Visit NaturZone Pest Control at pestcontrolsolutionflorida.com

Ten Steps to Pest Proofing Your Home

from the [National Pest Management Association](#)

1. Seal up any cracks and holes on the outside of your home including areas where utilities and pipes enter your home. Frequent vacuuming can help to eliminate tiny pests that other pests feed on.



2. Make sure vents are screened and gaps around windows and doors are sealed.

3. Keep tree branches and shrubbery well-trimmed and away from the house.



4. Inspect boxes, grocery bags and other packaging thoroughly to curb hitchhiking insects.

5. Keep basements, attics, and crawl spaces well ventilated and dry.



6. Store garbage in sealed containers and dispose of it regularly.

7. Store fire wood at least 20 feet away from the house and five inches off of the ground.

8. Repair fascia, soffits, and rotted roof shingles; some insects are drawn to deteriorating wood.

9. Replace weather stripping and repair loose mortar around the basement foundation and windows.



Bonus Step: Clean Your Gutters!

Keeping your gutters clean can help prevent both mosquitoes AND termites from showing up in and around your home. Mosquitoes will breed in the standing water collected in clogged gutters, and termites will be drawn to the decaying leaves and twigs that caused the clog. Clean your gutters to see less of these pests.

10. Contact one of the many licensed and qualified pest control professionals, they are your best resource to ensure these steps are completed properly.

PESP Member Spotlight: Cranberry Institute

Interview with John Wilson

Please tell our audience of parents, schoolteachers, pest management professionals, and pest control personnel about your organization and your role within this organization.

The [Cranberry Institute](#) is a non-profit organization consisting mainly of handlers and grower organizations in the cranberry industry. Our primary focus is threefold: In the horticultural area, we work on organizing their horticultural research which covers IPM and reduced risk chemicals. The other section deals with the health benefits of cranberries. This is a large focus area.

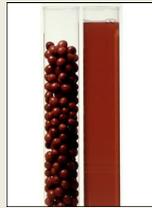
The Cranberry Institute is also a third party advocate to promote cranberry health – that is our communications aspect. Our organization has three functional areas: Horticultural research, health, and communications work. I serve as their horticultural advisor.

What does your role at the Cranberry Institute encompass?

As the horticultural advisor, I work on organizing and coordinating with the rest of the industry. There are at least half a dozen funding stakeholders. Growers association and handlers have monies to fund horticultural research.

What I do is identify priorities for the industry, work with growers and handlers as to what are the horticultural research priorities for the industry, generate RFPs, and send those out to

researchers so we can decide what programs we can fund. We meet once a year and everyone contributes their horticultural research funds on a number of different projects to fulfill the needs of the industry.



I also work on trying to find newer and safer chemicals and try to get the cranberry growers off the older materials. I make sure the IPM programs that are ongoing in a number of different areas are aligned with the research.

Please expand upon IPM's influence on projects.

I've been doing this for many years. One of the things is that industry is well aware of IPM since the mid 1990s, about all that this program entails: scouting, counting of insects, and the decision-making that goes on there. Growers are well aware of the advantages IPM. The Cranberry Institute certainly advocates these types of things.

We fund a lot of research, i.e. we support research that looks for cultural controls, biocontrols, and there is an organic chemical group starting up, so we are looking at organic initiatives. All these are tools that growers will use to combat pests non-chemically, or in biological or cultural fashion. We have been doing IPM for a long time. We advocate and educate when



Photo: Pine Island Cranberry Company, Inc.

we meet with grower groups in the field, and they are ones who implement IPM through the experiment stations or private IPM consultants in the industry.

You mentioned cultural controls for IPM. Please describe that term for our readers.

Here's an example: We get fruit rot or a bug that's very difficult to control. Flooding the cranberries is a recognized approach in the industry. Usually cranberries grow in an open bog. They don't grow underwater like most people think. The cranberries sit open. There are times when there is an infestation or weed problem. Determining the precise time for getting the plant under water during the growing season can severely reduce the pest, yet not harm the beneficial insects.

What other forms of IPM minimize routes of entry, keep bugs away?

This is very hard to do for cranberry bogs. But pheromones are sexual attractants females use to attract males. If you interrupt their mating behavior, their presence is reduced. There are pheromone traps – small cardboard tents that hang over a cranberry bog. It involves a sticky substance, emitting an odor, allows males to be captured, doing a count to know the presence of the insect, and keeping them from interrupting their life cycle. It is difficult to keep them away, though.

(...See Cranberry Institute on page 8)

Are there any chemicals or methods the Cranberry Institute uses to prevent in influx of pests?

Yes, pheromones can be used. Those vapors create an attractive area. A sticky substance is used to trap the male insects, which can then be counted. If the number of worms, e.g. is more than 5, then they need to treat the area chemically. If an action threshold is exceeded, then that triggers treatment.

Can this method be used in other forms of agriculture?

This same concept is used in other applications – e.g. in cherries, apples and grapes. Yes, there is a lot of information available.

Cranberry is called a minor crop, as there are only about 50,000 acres worldwide. There is much more research developed for other larger crops. But the concepts are the same, find the pests, count them, know their lifecycle. Same approach. It is important to know how to determine the economic damage using accepted models.

IPM - what has changed in the past 50 years?

The convention to pest management was, "I have a pest, I'm spraying." Count didn't matter. In the 1980s and 1990s, the industry went through a transition

to examine their practices and see what they were doing. If you counted just one insect, why incur the expense to go out and spray? If there are 10, then perhaps, Yes, treatment may be necessary. But it is important to be mindful about what technique is most appropriate and good for the overall economics. The amount sprayed really dropped – fungicides, insecticides. We got them to think about what they were doing.

Now, they are looking at more sophisticated methods to manage their pests. There are actually situations where folks don't have to spray. We've done a lot to ask them to be mindful of what they apply, how much, etc. Not to spray their water unless absolutely necessary.

We want to make sure growers are aware of the potential environmental hazards and their options to handle the pests. We want to educate them – we have prepared a Pesticide

Chart that growers can use.

The grower community is open to new and improved solutions.

Is the program you implement part of the Cooperative Extension Services?

Yes, these are all part of CES programs.

Who funds the Institute's work?



This is a membership based fee, based on the number of 'cents per barrel.' (volume of production based). Now, we are looking at alternative funding sources.

We disburse about \$225,000 per year to academic institutions.

Has your IPM work expanded? What major changes do you anticipate?

Tools continue to change for IPM. Behavior of insects, their predators, continues to be studied. Now we are getting involved in sustainability. It is popular for consumers to know their product was manufactured sustainably.

We are trying to do surveys with our growers and handlers to quantify IPM activities that can be communicated to the rest of the world responsibly – sustainable techniques.

Do you have any closing comments or requests for your audience today?

My contact information is provided here, and I welcome hearing back from your readers.

John Wilson
jwilson@cranberryinstitute.org



Scientists Draw Maps to Stop Stink Bugs

by Chris Gonzales of the Northeastern IPM Center

A monitoring system set up in the early 1980s to track common vegetable pests in New Jersey has led to a treasure trove of maps about a new invader, the brown marmorated stink bug (BMSB). Scientists are analyzing the maps to stop BMSB from pirating a wide range of fruit and vegetables in North America.

George Hamilton, an entomologist and extension specialist at Rutgers University, leads a team that is using this valuable store of historic information about BMSB movement to help them predict future BMSB activity across other regions.

“In 1999, we first detected BMSB in New Jersey,” Hamilton said. “In 2004, Anne Nielsen and I monitored an invasion of BMSB as it came into Philipsburg, NJ, right across the river from Allentown, PA.” Nielsen is an extension specialist in fruit entomology at Rutgers who at the time was a PhD student studying BMSB. Since then, Hamilton and his team have followed the expansion of BMSB throughout New Jersey using a statewide network of black light traps.

Growers, working with scientists, had installed a series of 70 or more black light traps on their farms in the early 1980s, sentinels against the European corn borer and corn earworm. This integrated pest management program has been running continuously, albeit with modifications such as new computer technology, for more than 30 years.

Hamilton’s group prepares weekly statewide maps of their BMSB catches in New Jersey. These maps signal to growers where hotspots—rising numbers of BMSB and other pests—are found.

In 2004, they did what they could to warn growers to check their crops, but at the time BMSB was not classified as an agricultural pest. “What we can do now,” Hamilton said, “is more accurate hotspot identification.”

Scientists use the maps to track insect counts, distance, and time. This information helps them estimate how quickly BMSB reproduces and how far it travels. The predictions about what areas may be at risk are immensely valuable for growers. As Hamilton knows, it’s hard work to go into the field, collect samples, and update the database. Yet for growers who live in areas where BMSB is just getting established, these reports could mean the difference between a healthy harvest and crop losses.

One of Hamilton’s Ph.D. students, Noel Hahn, has been studying BMSB movement in and out of orchards. In 2012, he visited orchards weekly, sampling specific trees on the borders and in the middle, and noting land-use types. He analyzes landscape features and tries to determine statistically from where BMSB is invading. Adam Wallner, a post-doctoral researcher with Rutgers trained in geospatial relationships and statistics, is working on making forecasts and predicting trends. Today scientists seek out the maps made from historical data, wanting to understand what it looks like when BMSB invades new territory.



Photo: George Hamilton, Rutgers University

This black light trap stands guard against fruit and vegetable pests, including the brown marmorated stink bug, in a network of about 70 similar traps in New Jersey.

(...See Stink Bugs on page 10)

Maps to Stop Stink Bugs (Cont'd)

Hamilton has created maps of his team's data since 2010, but he can map any year by going back to the 1980s-era vegetable and pest monitoring system. "We can look at the [2004] invasion as if it were happening in real time. We can assess how fast BMSB mates, how far it can move every year. I'm aware of only a few invading pests—the emerald ash borer would be one—where we had such an extensive monitoring system already in place."

"Three years ago," Hamilton said, "we started publishing these maps. We put them in our newsletters. Growers can receive our newsletters, go to the website, and find BMSB hotspots. If there is a BMSB hotspot in their area, they should go out in their fields, looking themselves. If they find BMSB, they will need to make their own management decisions."

The map research is part of a broader Coordinated Agricultural Project entitled "[Biology, Ecology and Management of the Brown Marmorated Stink Bug in Specialty Crops](#)" that has been funded through the USDA-NIFA [Specialty Crop Research Initiative](#).

"Other states are calling us about this program," Hamilton said, with a touch of reserved pride. "Michigan, California, and Oregon have contacted us to learn more about it."

Average Nightly Distribution of Adult BMSB for week ending July 27, 2011

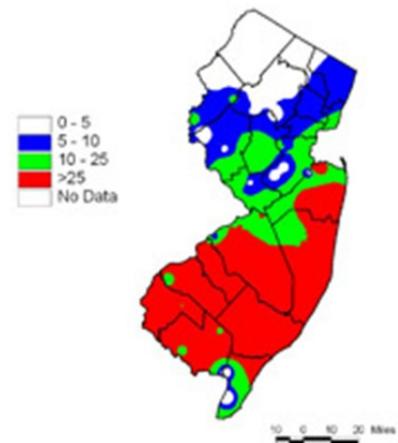


Image: George Hamilton, Rutgers University

A map shows the intense BMSB activity of July, 2011, illustrating the potential of mapping to warn growers about pest risk.

IPM Guide for Affordable Housing Available

by Allison Taisey of the Northeastern IPM Center



Affordable multifamily housing presents unique challenges for those trying to manage bed bugs, cockroaches, and rodents. Pest-free housing is a realistic goal, but a network of staff, pest management professionals, and residents must cooperate to successfully manage pests building-wide.

[Integrated Pest Management: A Guide for Affordable Housing](#) is a new resource from the Northeastern IPM Center that will help affordable housing managers, owners, and agents use integrated pest management (IPM) to contend with a variety of urban pests in their facilities. It will also serve as a useful tool for anyone seeking to integrate IPM practices into a residential pest management strategy.

The illustrated, 81-page guide gives readers a basic knowledge of pests and pesticides that will help them make informed pest control decisions with a pest management professional; an understanding of how to implement IPM in housing; and tools to orient staff to their role on an IPM team. Download a free copy at stoppests.org/Guide.

Grant Opportunities

Community Food Projects Competitive Grants Program

Funding Agency, and Funding Number	USDA's National Institute of Food and Agriculture, USDA-NIFA-CFP-003957
Description	Community Food Projects should be designed to (1): (A) meet the food needs of low-income people; (B) increase the self-reliance of communities in providing for their own food needs; and (C) promote comprehensive responses to local food, farm, and nutrition issues; and/or (2) meet specific state, local, or neighborhood food and agriculture needs for (A) infrastructure improvement and development; (B) planning for long-term solutions; or (C) the creation of innovative marketing activities that mutually benefit agricultural producers and low-income consumers.
Closing Date	November 28, 2012
Website	nifa.usda.gov/funding/rfas/community_food.html

Agriculture and Food Research Initiative: Food Safety

Funding Agency, and Funding Number	USDA's National Institute of Food and Agriculture, USDA-NIFA-AFRI-003850
Description	This AFRI Challenge Area promotes and enhances the scientific discipline of food safety, with an overall aim of protecting consumers from microbial and chemical contaminants that may occur during all stages of the food chain, from production to consumption. In order to achieve this outcome, this program will support single-function Research Projects and multi-function Integrated Research, Education, and/or Extension Projects, and Food and Agricultural Science Enhancement (FASE) Grants that address one of the Program Area Priorities (see Food Safety RFA for details).
Closing Date	December 5, 2012
Website	nifa.usda.gov/funding/rfas/afri.html

Environmental Justice Small Grants Program

Funding Agency, and Funding Number	Environmental Protection Agency, EPA-OECA-OEJ-13-01
Description	The Environmental Justice Small Grants (EJSG) Program provides funding for eligible applicants for projects that address local environmental and public health issues within an affected community. The EJSG Program is designed to help communities understand and address exposure to multiple environ-
Closing Date	January 7, 2013
Website	www.epa.gov/environmentaljustice/grants/ej-smgrants.html

Grant Opportunities (Cont'd)

2013 National Urban and Community Forestry Grant	
Funding Agency, and Funding	Forest Service, USDA-FS-UCF-01-2013
Description	Grant Category 1: Create an outreach program, pilot project or series of initiatives that communicates the connection between the personal benefits of urban forests and quality of life within a community through community engagement. Grant Category 2: Design an urban forestry recruitment program and retention strategies that support urban forestry academic curriculum. • Applicants should review the Society of American Foresters (SAF) list of schools and accreditation criteria when developing their proposal.
Closing Date	December 3, 2012
Website	http://www07.grants.gov/search/synopsis.do;jsessionid=hlHcQRhQQBVkh91g7JWZpgjDs98HNmBgKnGWHkcQL8yw5ZvdxJGh!2071562142

Upcoming Events

Entomological Society of America: Entomology 2012

Nov 13-16, 2012
Knoxville, TN
www.entsoc.org/entomology2012

Texas IPM Coordinators Conference

Nov 14-15, 2012
San Marcos, TX
tasbo.org/training/ipm-coordinators-conference

Entomological Society of America's ACE Prep Course

Nov. 15, 2012
Knoxville, TN
entocert.org/pmp_training

77th Purdue Pest Management Conference

Jan 7-9, 2013
West Lafayette, IN
entocert.org/ace-certification

Texas A&M Urban Pest Management Conference and Workshop

Jan 9-11, 2013
Bryan, TX
pcoconference.tamu.edu

NPMA and PLANET Lawn Care Summit 2013

Jan 7-9, 2013
Orlando, FL
npmapestworld.org/events/lawncaresummit.cfm



NPMA Eastern Conference 2013

Jan 17-18, 2013
Atlantic City, NJ
npmapestworld.org/commerce/easternconference2013/

NPMA Southwestern Conference 2013

Jan 31 - Feb 1, 2013
Albuquerque, NM
npmapestworld.org/commerce/southwesternconference2013/

Upcoming Events (Cont'd)

Weed Science Society of America Annual Meeting

Feb. 4-7, 2013

Baltimore, MD

www.wssa.net/Meetings/WSSAAnnual/Info.htm

Maryland Association for Environmental and Outdoor Education Annual Conference

Feb. 7- 10, 2013

Ocean City, MD

www.maeoe.org/conference/2013/index.php

NPMA Southern Conference

Feb. 12-13, 2013

Tunica, MS

www.npmapestworld.org/commerce/southernconference2013/

NPMA Wildlife Expo

Feb. 14-16, 2013

Tunica, MS

www.npmapestworld.org/events/WildlifeExpo2012.cfm

Entomological Society of America Branch Meetings

Southwestern: Feb. 25-28, Las Cruces, NM

Southeastern: Mar. 3-6, Baton Rouge, LA

Eastern: Mar. 14-20, Lancaster, PA

Pacific: Apr. 6-11, Stateline, NV

North Central: Jun. 16-19, Rapid City, SD

www.entsoc.org/branch-meetings

The Green Strides Webinar Series

Integrated Pest Management in Schools (EPA)

Mar. 6, 2013

www2.ed.gov/programs/green-ribbon-schools/webinar-series.doc

Association of American Pesticide Control Officials Conference

Mar. 18-20, 2013

Arlington, VA

www.aapco.org/meetings.html#

Celebrating Children's Health Month

In October, EPA Observed Children's Health Month with [Activities](#) across the Country

EPA's mission to protect human health and the environment requires us to continue to pay special attention to the vulnerabilities of children - especially children living in disadvantaged communities. In celebration of Children's Health Month, the EPA highlighted the importance of protecting children from the health risks posed by pests as well as the potential effects of pesticides.



Children are more affected by pollution than adults for many reasons; including that their organ systems are still developing and their play and learning behaviors expose them to additional environmental threats. Pesticides have widespread uses and may affect children's health in a variety of settings, including homes, schools, child care programs, play areas and agricultural fields.

During October and throughout the year, we will work with parents, teachers, and health providers to promote healthy environments where children live, learn and play. To learn more about how to control pests safely, how children may be exposed to pesticides and what parents, caregivers, or teachers can do to reduce their exposure, please visit www.epa.gov/pesticides/health/children.htm

To learn more children's environmental health, visit the Office of Children's Health Protection [website](#) and view the [Presidential Proclamation](#) for Child Health Day.