PESPWire

The Quarterly e-bulletin of EPA's Pesticide Environmental Stewardship Program Summer 2013

EPA Teams Up to Implement School IPM

More than 52 million children and 6 million adults in the United States spend a significant portion of their day in a school environment. With so many people in such spaces, reducing exposure to pests and pesticides by implementing Integrated Pest Management (IPM) in a school environment makes sense as it saves dollars and creates a healthier learning environment. As part of the Agency's commitment to protecting children's health, EPA has recently launched an initiative on school IPM. In tandem with this commitment, the Office of Pesticide Programs continues to build collaborative relationships with other EPA Offices and other entities dedicated to IPM adoption.

Alignment and coordination within EPA is critical and our Regional School IPM Coordinators play a key role in encouraging schools to adopt IPM practices and implement real, on-the-ground IPM programs in our Nations' schools. The Regional Coordinators are well positioned to give a visible and approachable presence to schools within their Regions.

EPA's Region 3 Office in Philadelphia, PA, serving Delaware, District of Columbia, Maryland, Pennsylvania, West Virginia and Virginia, has an active School IPM Coordination Team in John Butler and Rich Ponak.

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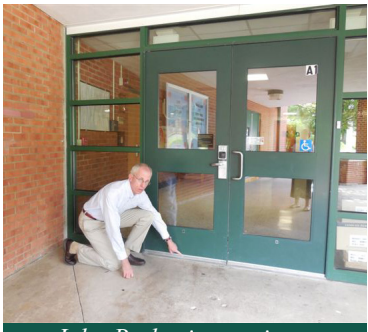

John Butler inspecting a school's door sweeps

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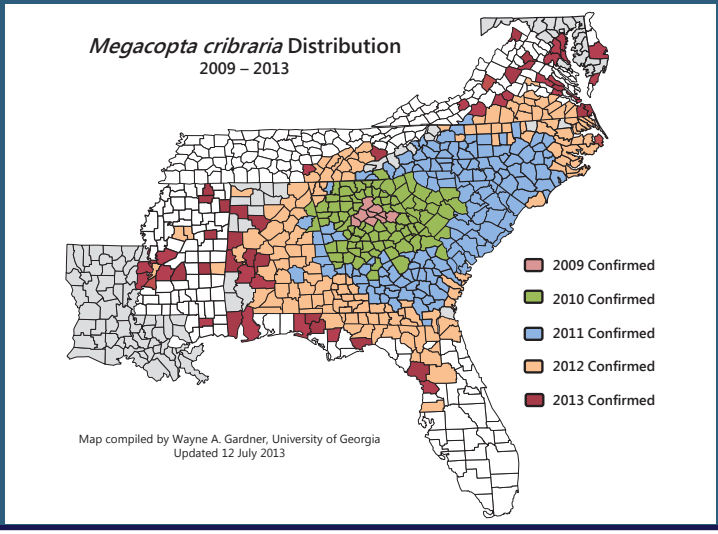
Meet one of America's Newest Pests: the Kudzu Bug

First discovered in America in 2009, the invasive kudzu bug (*Megacopta cribraria),* native to Asia, has quickly spread throughout the southeastern U.S. Only initially found in a handful of Georgia counties, the kudzu bug is now found throughout Georgia, as well as in Alabama, Mississippi, Florida, Tennessee, North Carolina, South Carolina, and Virginia.



Although the kudzu bug offers control of invasive plant, kudzu, it has also become widely known as a nuisance pest to homeowners and an economic pest of soybeans.

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Featured Member: Glades Crop Care

Glades Crop Care, Inc., headquartered in Jupiter, Florida, is the largest independent research and crop consulting firm in the southeastern U.S. This decorated PESP Gold member has earned national and international recognition for their innovative pest and disease management programs. Specific awards include the 2002 to 2005- PESP Champion Award, the 2009- Sustained Excellence Award and the 1997-1998 IPM research project funded by PESP.

Glades Crop Care was selected as PESP's featured farm member for implementing various IPM strategies that reduce pesticide use and risk. They employed various stratageies including researching and testing lower risk pesticides, educating users on chemical safety, and providing outreach and education to growers and the public. They are also a leader in using

Dr. Charlie Mellinger, Director of Glades Crop Care, Educating Partners

GIS tracking methods in IPM to improve pest management auditing techniques and crop management practices.

In the fifteen years that Glades Crop Care has been a PESP member, the acreage for which they have provided regular IPM recommendations has increased from approximately 43,000 acres in Florida to 75,000 acres in 2013. They have been credited for addressing resistance management concerns with their clients and for using metalized reflective plastic mulch to repel viruliferous silverleaf whiteflies and thrips from tomato, pepper and cucurbit crops. This technique has been adopted by approximately 75% of farming operations, representing up to 90% of the acreage in each crop.

Tomato seedlings infected with groundnut ringspot
Photo: Felicia Parks, Glades Crop Care

In a collaborative partnership with USDA, Glades Crop Care has deployed monitoring traps for the invasive European pepper moth in four locations throughout South Florida as a service to their clientele and the general farming community. Through the use of various observation and resistant management techniques, Glades Corp Care was instrumental in decreasing unnecessary pesticide applications to control pepper weevils and serpentine leafminers.

Recently, with the aid of USDA scientists, Glades Crop Care has been able to identify two new destructive tomato viruses (groundnut ringspot and tomato chlorotic spot) and develop IPM management plans for the insect vector of the viruses, thrips.

Thrips

Ranging in size from 0.5mm to 14mm in length, thrips are extremely small insects that cause millions of dollars of damage annually. Thrips damage crops when feeding and laying eggs, which leads to physical damage as well as disease transmission. Glades Crop Care created a knowledgebase devoted to thrips that includes information on the control of thrips by their natural predator, the insidious flower bug (*Orius insidiosus*). This knowledgebase can be accessed at http://www.gladescropcare.com/resources/thrips-knowledgebase.

Western Flower Thrip *Frankliniella occidentalis*
Photo: Jack T. Reed, Mississippi State University

The western flower thrip is one of the most common thrips species; however, a total of nine thrips species plague Florida.

Thrips Predator, the Insidious Flower Bug - *Orius insidosus*
Photo: Ho Jung Yoo, Purdue University

EPA Region 3 Implements School IPM

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The team has been tirelessly promoting school IPM with the message "Reduce pests and pesticide exposure to children." The School IPM staff gained momentum from the support of their regional management and from well established relationships from regional stakeholders. The Region's efforts are being accelerated by working in tandem with the states to promote implementation of IPM in schools.

When visits are made to a school district to promote IPM, there is first an overview briefing for the administration and key staff members on the principles of IPM. Along with this conversation, there is an assessment of the school facility as well as dialogue about what motivates a school to implement an IPM program. According to John Butler, "Schools are always working to reduce costs and most see IPM as an opportunity to cut costs on pesticide applications while protecting children and staff from possible pesticide exposure." By implementing IPM, school administrators can positively impact school absenteeism and children's health.

Another interesting observation from the Region 3 team is that economic challenges are bringing about changes in pest management. Larger school districts are transitioning their structural pest management programs in-house. This allows them to focus on specific IPM tactics like sanitation in the cafeteria. Such tactics ultimately reduce pesticide applications in many instances and save money for the sdistrict.

There has also been more attention paid to the placement of the dumpster outside of the schools. Dumpsters should be placed outside and away from the school's entryway. Regular power washing of dumpsters rids them of food debris that attracts pests. When these practices are neglected, pests thrive and have a clear pathway into the school. School grounds personnel are also focusing on lawns and their mowed length to reduce pesticide applications. Certain native plant species can be used to deter common pests and concurrently reduce water use.

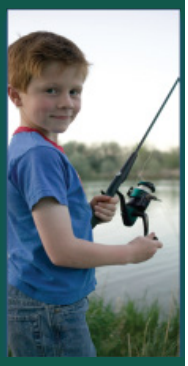
Region 3's initiatives to move school IPM forward via partnerships, collaboration, and communication are a great example of on-the-ground work making positive change.

Tick Quest

Maine to Provide Key Tick Distribution Data

Researchers from the Maine Medical Center are collaborating with the Walter Reed Army Institute of Research, Smithsonian Institution, and EPA (Office of Pesticide Programs and Region 1) to evaluate new tick distribution data.

Maine has a data-rich surveillance program, entering its 25th year, that is monitoring the geographic spread of the black-legged tick, Ixodes scapularis. The program focus is shifting toward the northern and eastern boundaries of the state, adjacent to Quebec and New Brunswick, Canada.



The collaborative effort is seeking to incorporate the Maine data into TickMap, a federally-sponsored, geospatially referenced clearinghouse for tick disease vector species collection records and distribution models.

Find out more about TickMap at www.tickmap.org

Look for updates in future issues of the PESPWire!

The Kudzu Bug

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The Kudzu Bug as a Household Pest

Primarily a nuisance pest in non-agricultural settings, the kudzu bug is known for occurring in great numbers on and around light-colored homes and other structures because they have a strong attraction to light colored surfaces. They seek out any crack or crevice when searching for overwintering sites, and are active fliers.

Dr. Dan Suiter, University of Georgia

Kudzu bugs drawn to the white paint on a house in Georgia.

They can release a compound with a noxious odor that also can burn, causing rashes and turning the skin or other surface yellow.

Kudzu bugs peak in activity in during the fall, and again during early spring. In the fall, the kudzu bugs abandon kudzu and other vegetation in search of overwintering sites. As these sites could be any crack or crevice found in a home, it is important to properly seal your home by late summer.

Tips for sealing a home include:

- Place screening over all possible routes of insect entry
- Check to make sure screens on windows are without gaps
- Stuff steel wool into openings where screening cannot be used
- Make sure doors establish a tight seal when closed

During the early spring, kudzu bugs emerge from their overwintering site in search of kudzu, legumes, or other host vegetation. If their overwintering site was on or in a building, they could end up inside the building by accident.

If a kudzu bug ends up in your home or building, to avoid coming into contact with the irritating compound they release, do not crush them. Instead, vacuum the bugs or place them in hot, soapy water. Avoid using vacuums that will push bugs through a motor. If you have one of these types of vacuums, use a stocking or pantyhose placed in the vacuum tube and secured with a rubber band to catch insects before they reach the motor.

Scientists recommend caution when using pesticides to keep kudzu bugs out of your home or building. Pesticides labeled for use against kudzu bugs will kill the ones treated, but unless the source of the infestation is addressed, they will continue to be found on the building. For long-term control, remove or kill all of the kudzu near to your home during the summer, as it will be a site of re-infestation during the fall.

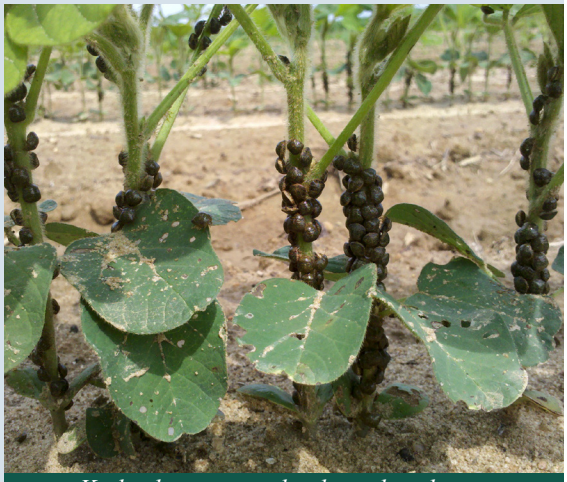
Photo: Joe Eger, Dow AgroSciences

The kudzu bug is similar in size to a ladybug, and most closely related to stink bugs. They are known to feed on their namesake, kudzu, as well as soybeans and other legumes.

The Kudzu Bug as an Agricultural Pest

The kudzu bug has the potential to become a major agricultural pest within the United States. Researchers have found soybean plants to be the only agricultural plant to serve as a suitable host plant thus far. Within a greenhouse laboratory, researchers at North Carolina State found that immature kudzu bugs were able to feed exclusively on soybeans, reach maturity and reproduce.

Though this research was under controlled conditions, it suggests that kudzu bugs could spread to



Kudzu bugs on early planted soybeans
Photo: Jeremy Greene, Clemson University

Paratelenomus saccharalis emerging from kudzu bug eggs.
Photo: Dr. Margaret Allen, USDA-ARS

any place where soybeans are grown. Soybean crop yield losses to kudzu bugs have been found to average18%, with results ranging from 0% to 47% in field trials conducted by Dr. Phillip Roberts (University of Georgia) and Dr. Jeremy Greene (Clemson University).

Research is ongoing to discover whether crops other than soybeans can serve as host plants, and thus far no other crop has been found to be a suitable host. Partial development of kudzu bugs has been seen on lima beans and mung beans, but full development on these plants has not occurred. Kudzu bugs will temporarily infest non-host plants, congregating in large numbers on legumes and non-legumes alike, before leaving those plants to reproduce on a host plant. It is not yet known whether these temporary infestations have a detrimental impact on the plants, and research on this topic is ongoing.

Dr. Walker Jones of the USDA-Agricultural Research Service has conducted extensive research into the use of a natural enemy of the kudzu bug as control in the United States. Dr. Jones received *Paratelenomus saccharalis*, a tiny parasitoid wasp of kudzu bug eggs, under permit from Japan in 2011. His rigorous risk assessment has shown this parasitoid to be extremely host specific to the kudzu bug and unable to attack any North American bug, which is rarely seen with parasitoids. Dr. Jones has partnered with entomologists from South Carolina, North Carolina and Georgia to seek permission and funding for a three year parasitoid release and evaluation project.

Kudzu bugs may be susceptible to trap cropping and trapping, and there are several pesticides that are labeled for use against kudzu bugs. For more information on scouting, when to treat, and insecticide efficacy, please go the University of Georgia's kudzu bug soybean grower webpage: www.kudzubug.org/grower.html.

For information on kudzu bug control for homeowners: www.kudzubug.org/homeowner.html

For information on North Carolina State University study on kudzu bugs' development on soybeans:

www.caes.uga.edu/applications/gafaces/?public=viewStory&pk_id=4377

and

http://esa.publisher.ingentaconnect.com/content/esa/jee/2013/00000106/00000002/art00003

For the most recent distribution map: www.kudzubug.org/distribution_map.cfm

Photo: Dr. Dan Suiter, University of Georgia

We would like to thank The University of Georgia's Drs. Dan Suiter, Wayne Gardner, and David Buntin as well as Dr. Walker Jones (USDA-ARS) for their assistance with this article.

Implementing IPM in Affordable Housing

If you work with affordable multi-family housing, you probably are familiar with some of the unique pest management challenges these properties face. Help a property near you leverage integrated pest management (IPM) to lower risks from pests and pesticides by recommending a StopPests in Housing training!

The popular consultation and training program run by the Northeastern IPM Center is funded by the U.S. Department of Housing and Urban Development and the U.S. Department of Agriculture. *StopPests* consultants offer free assistance in implementing IPM to participating federally-assisted multi-family housing providers (conventional, low-income public housing and project-based Section 8 properties)
Over the next three years, the StopPests in Housing Program (www.stoppests.org) plans to start IPM programs in 70 more properties.

A multi-family housing IPM program has the potential to:

- Increase communication and cooperation among staff, contractors, and residents
- Decrease the amount of pesticides being applied
- Reduce pest populations, and
- Reduce pests complaints from both residents and staff.

The StopPests program helps affordable housing providers realize these benefits. The following lessons learned through StopPests consultants' work with housing authorities helped shape the program:

Allie Taisey, project coordinator for the StopPests in Housing program, answers questions during the IPM in Multifamily Housing training's hands-on inspection.

- Management must be enthusiastically committed. Executive directors and property managers must allocate the time and money necessary to have a pest management program that prevents high-level pest infestations.
- An IPM coordinator, usually an employee of the property owner/manager, based at the property should captain the IPM team. This person must work with the StopPests consultant, housing provider staff, contractors, residents, and local partners to ensure the property is welcoming for people but inhospitable for pests. This person integrates pest management responsibilities into existing roles and routines so that no one works harder, but everyone works smarter.
- Housing providers with multiple sites should pilot IPM in a section of their portfolio, then expand it to other properties. This approach allows management to test policies and procedures until they find the right fit. In addition, a successful IPM pilot will prove the value to other managers.
- Early pest detection and intervention are usually cheaper in the long-run than procrastination. At the start of an IPM program, there is often a flurry of deferred maintenance issues to be resolved, which some perceive to be high start-up costs. As these maintenance issues are resolved, costs level out, and may eventually drop off. The Boston Housing Authority, for example, demonstrated a 2/3 decrease in pest-related work orders after starting their IPM program. Teaching everyone the basics about pests and how to control them is a key part of IPM.

The classroom portion of IPM in Multifamily Housing Training

StopPests' IPM in Multifamily Housing Training conveys the content, but the day-to-day implementation of a full IPM program

During the site inspection segment of the IPM in Multifamily Housing training, a property manager found a hole a mouse could use to get inside a building.

can only happen when the supporting framework is in place. Before training, the StopPests in Housing program helps develop the capacity of the pilot site to implement the IPM principles.

Are you working in a HUD-supported community?

StopPests consultants are available to work with public housing and property-based rental assistance properties to implement IPM. Your referral could help reduce pesticide use, improve housekeeping, and stop pests in housing. Submit leads at www.stoppests.org/request. For additional information on the StopPests program, visit www.stoppests.org.

What Does an IPM Coordinator Do?

- **Designates a housing staff member to accompany the pest control contractor on each visit.**
- **Creates a list of focus units that warrant monthly inspection and update it monthly.**
- **Develops a housekeeping inspection checklist that includes pest-conducive conditions and prompts the inspector to note over-the-counter pesticides in the home.**
- **Conducts a housekeeping inspection within 90 days of each move-in and at least annually thereafter using the housekeeping checklist.**
- **Enacts a lease enforcement process for failure to let the contractor into the unit or cooperate with his/her instructions.**
- **Distributes and posts "Pesticide Use Notifications" in advance of pesticide treatments in compliance with applicable pesticide regulations.**
- **Sets up an IPM log for the pilot site (see www.stoppests.org/what-is-ipm/using-ipm/focus-units/ipm-log).**
- **Sees that all pesticides (indoors and outdoors) are applied in compliance with all applicable pesticide regulations (state, federal, and city/town).**

What Does the StopPests Consultant Do?

- **Supports the IPM Coordinator as needed and suggests template documents and model language.**
- **Reaches out to the Regional IPM Center Director and in-state IPM contacts (including local extension) and invites them to participate.**
- **Gets local service providers (faith-based organizations, resident support services, etc.) informed about IPM.**

Citrus Huanglongbing and Citrus Canker – A Threat to the Florida Citrus Industry

Harold W. Browning,
Chief Operations Officer,
Citrus Research and Development Foundation

Citrus canker and Huanglongbing (HLB, or greening) are the two most recent disease threats to affect the Florida industry. The most important of these two, Huanglongbing, is a disease complex specific to citrus which involves an insect vector, the Asian citrus psyllid (ACP), *Diaphorina citri*, and a bacterial pathogen *Candidatus Liberibacter asiaticus* (CLas).

The insect has sucking mouthparts and in feeding on the citrus vascular system (phloem) of an infected plant, acquires the bacteria, which reside within the plant in a systemic manner. When ACP moves to an uninfected tree and begin feeding, they transmit the disease through their mouthparts into the susceptible plant, and disease spread ensues.

Asian Citrus Psyllid (ACP)
Photo: David Hall USDA-ARS

The HLB pathosystem is not native to Florida and became established when ACP was first detected in southeast Florida in 1998. The insect spread rapidly through the peninsula of Florida on commercial and homeowner citrus trees, causing little direct damage to the trees. Seven years later, the pathogen (CLas), was detected in dooryard citrus trees in southeast Florida, establishing that the disease had been introduced into the state.

Citrus Greening
Photo: Agricultural and Natural Resources, University of California

By 2007-08, the disease progression, aided by movement of ACP from grove to grove and county to county, spread the disease through all of the 34 producing counties in the state. With unchecked populations of ACP, the disease spread aggressively both within groves from infected to uninfected trees, and over larger distances into new uninfected groves.

The onset of HLB disease is delayed as the bacterium multiplies and spreads within infected plants, and within months to a few years, symptoms, including leaf mottling and yellowing, twig dieback, and fruit abnormality begins to show. Since the disease is chronic and systemic in infected trees, symptoms tend to increase and now, with Florida having disease for as long as 7 years in some locations, there are trees in full decline from the disease, while others less severely injured are showing thinner canopies, impaired root systems, and other symptoms of decline.

During the 2012-13 Florida citrus harvest season which is just now ending, Florida citrus producers experienced on average a 10-15 % loss of fruit through drop of the fruit prior to harvest. A sign of stress, there likely are a number of related factors, with HLB being the dominant feature. This economic loss, coupled with doubling of production costs for citrus due to mitigation of HLB and the vector, threatens the economic livelihood, while the disease threatens tree survival.

Significant research is underway to limit spread and reduce infection in a range of near-term to longer-term strategies that have three goals:

- Protect the productivity of the current inventory of over 60 million citrus trees in the state, particularly until such time as more sustainable permanent solutions are available that will promote replanting the industry.
- Provide the tools to encourage replanting of citrus trees where groves have been lost. Tools are available to support this, but there is mixed evidence at present that new trees will survive to a productive and profitable age.
- Develop durable, long-term and sustainable solutions to HLB, which may be focused primarily on development of resistant plants.

The technologies to allow this to be successful can be summarized by:

- Vector suppression via pesticidal applications, biological control with parasitoids and insect pathogens
- Therapies which may reduce bacterial titer in infected trees, including traditional and non-traditional antimicrobial materials. Thermal therapy and other approaches also are being investigated
- Deployment of citrus rootstocks which appear to be more tolerant of HLB than conventional rootstocks. These are coming from University and USDA citrus breeding programs
- Improved cultural practices to optimize tree health and enable trees to better stand against HLB infection
- Finally, breeding for resistance to HLB through conventional methods as well as through genetic engineering.

These strategies are being investigated and field tested synchronously, as time is limited in demonstrating and adopting management strategies before the disease fully impacts the world's second largest citrus producer. Partnerships also are playing a role, as Brazil the world's largest producer also has the disease, and there is evidence that the pathosystem will soon be established in Texas and California citrus.

Citrus Canker
Photo: Tim Gottwald USDA-ARS

The other disease, citrus canker, is a bacterium, *Xanthomonas axonopodis*, which is spread through wind-blown rain from tree to tree, and which causes lesions on twigs, fruit and leaves of infected trees. The bacterium is not systemic, but spreads through spores emitted from the lesions during wet conditions. The establishment of Citrus canker in Florida elicited a regulatory response that mandated tree destruction not only of trees on which canker was detected, but also the citrus trees within 1900 feet of the detection. During the eradication period, over 83,000 acres of citrus were removed, and the hurricanes of 2004-05 made infeasible continuation of this approach.

Management tactics available for this disease which is widespread in Florida currently include copper-based topical bactericides, and production practices that prevent excess moisture on foliage (under-tree irrigation) and decontamination to prevent spread when foliage is wet. The implications for this disease are that it affects marketability (and trade) of fresh fruit from infected groves, and causes premature fruit drop during seasons that experience above-normal infection.

Research efforts to manage this disease better are focused on non-copper protectants to be applied to susceptible foliage and fruit, testing and deployment of more tolerant cultivars, and ultimate breeding for resistance to this disease. Combined, these two diseases pose a significant threat to the long-term sustainability of Florida citrus industry.

Photo: Francisco Antunes

The Summer 2013 Cicada

Can you imagine large buzzing insects taking over almost every tree in your neighborhood? The summer night filled with a loud and persistent insect song? Your morning jog interrupted by clumsy insects flying near your face? For millions of people this was no fantasy or bad dream.

By midsummer, billions of periodical cicadas (also known as Brood II cicadas) will have swept through most of the East Coast, ranging from North Carolina to Connecticut. These Brood II cicadas appear on the East Coast only once every 17 years. The Brood II cicadas' last visit to the east coast was during Bill Clinton's first year in the White House! Brood II cicadas are an interesting insect that have a distinct appearance, sound, life cycle, and habitat.

Cicadas are easily recognized with their prominent red eyes, stout black bodies, and bright yellow/orange wings and legs. There are approximately 3,000 cicada species, a majority of them considered "annuals", as some adults will appear every year. The dog day cicada, for example, emerges every summer. However, it's the rarely seen Brood II cicada that gets the most attention!

The large numbers of Brood II cicadas are often confused with locusts, which are actually a type of grasshopper. Unlike locusts, cicadas don't eat plants or decimate crops. Adult Brood II cicadas feed by sucking the sap from trees without causing any damage to the plant.

When do these cicadas appear? Brood II cicadas appear when the ground temperature reaches 64 degrees 8 inches below the soil. If you missed the Brood II cicada this year, don't worry: you can expect to see them again in 2030!

What keeps the cicada going? Trees! They are the life blood of cicadas. The insects use trees for food, singing perches, mating locations, and as a repository for their eggs. They also spend their entire developmental years underground feeding on their roots.

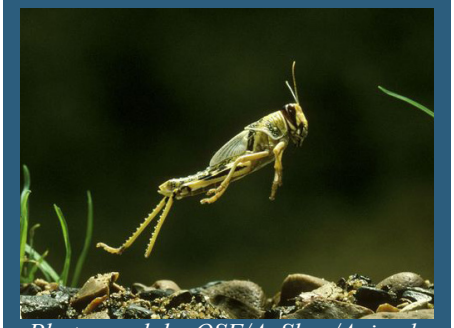
Fortunately, cicadas do not carry diseases or bite. Some people find their presence overwhelming, especially as the chorus of the males' song reaches a crescendo. They may also startle you as they fall onto your head or shoulders, and you will probably notice them climbing the trees in your yard or the side of your house. According to Missy Henriksen of the National Pest Management Association, pets may even play with and eat cicadas! They should not make your pet sick, but they are probably not the best source of nutrition. Adult Brood II cicadas only live for a few weeks, emerging from the ground over a period of approximately two weeks. Due to this staggered emergence, they can be seen over a span of four to six weeks despite their short life span.

Did you miss the 2013 Brood II cicada? No worries! Catch this fascinating insect in 17 years!

Is it a Cicada or a Locust?

Cicadas are members of the order Homoptera, and are closely related to aphids and leafhoppers. They can damage young trees, but they do not create destructive plagues.

Locusts are of the order Orthoptera, and are closely related to grasshoppers and crickets. Locusts are sometimes solitary insects, but can form swarms that devastate crops.



Photograph by OSF/A. Shay/Animals Animals—Earth Scenes

EPA and Friends Community School share the Same Tick IPM Vision!

For the past three years, EPA has developed a collaboration effort with the Friends Community School (FCS) in College Park, MD to support Tick Integrated Pest Management. After the discovery of the tick population density within the school grounds and the College Park/Greenbelt, MD, area, Christine Dunathan, Director of Advancement & IT for FCS took immediate action!

Friends Community School

FCS established their permanent "green" home in 2007. At that time, the potential exposure to tick populations was unknown. The facility and grounds are adjacent to National Park Service land. It is a fabulous facility in a spectacular natural setting that has permitted them to expand their academic, extra-curricular and summer programs. Once the school staff and students had relocated to this new facility, tick awareness was eminent. The FCS administration, parents, and students supported Christine's goal in reducing risk from tick-borne diseases within FCS grounds. Christine had taken on the task of implementing a Tick IPM program within her school, realizing staff time and resources needed to be dedicated to solving the problem, thereby reducing risk to students.

The philosophy of FCS teaches young people to support environmental stewardship as a core value. The action taken by Christine and the school exemplifies these values. After recognizing there was a concern for the tick populations, Dr. John Carroll from the USDA, was asked for support in monitoring and offering solutions.

In the mean time, Christine had instituted personal protection requirements (long pants, long shirts, socks, etc.) before entering school grounds for classroom science lessons. For recess, the students were limited to playing on the hard top. The lawn was cut short, and alternative pesticide products were applied in the grass/wooded area of the school grounds. Conventional pesticide devices (e.g., 4-poster deer acaracide device and tick tubes containing permethrin treated cotton balls) were included in the IPM plan. Treated tennis bands were worn by each student on their ankles.

Christine Dunathan talks to EPA staff about their 4-poster deer acaracide device

Additionaly, an educational program for the entire staff, student and parent consortium was launched. Education on ticks, their habits, and prevention was provided. Daily tick checks were emphasized. An education plan on the ramification of exposure to ticks which may carry pathogens causing disease was also implemented.

Christine has presented FCS's efforts in establishing an effective Tick IPM plan in a school at a 2013 EPA conference on Community IPM for Preventing Tick-Borne Diseases. The presentation focused on effective IPM practices used at schools to reduce risks of tick-borne diseases while minimizing pesticide impacts. Christine also presented at the Maryland Association of Educational and Outdoor Activities 2013 conference at an EPA-led workshop on "Tick-Borne Diseases and IPM."

On May 9, 2013, EPA staff met with Friends Community School Administrators on tick IPM in schools. They toured the Maryland Green Ribbon school (K-8th grade). The tour and discussion focused on the methods implemented to reduce exposure to ticks within their school, i.e., personal protection, 4-poster deer acaricide device, permethrin treated tick tubes, restrictions on play areas, etc.

The Friends Community School administration, while working with USDA and EPA, has been a role model in the development of outreach materials and reducing risk to students on school grounds.

Success can be measured! Friends Community School and their consortium have implemented an exemplary Tick IPM program thereby reducing exposure to ticks. Because of their actions, FCS is a safer school!

EPA Staffing Updates

EPA's Biopesticides and Pollution Prevention Division Welcomes Robert McNally as New Director

The Biopesticides and Polution Prevention Division (BPPD), which houses the Environmental Stewardship Branch and the Center of Expertise for School IPM said goodbye to Director Keith Matthews on July 6, 2013, as he departed for a position with the law firm Sidley Austin LLP. We'd like to thank Keith for his leadership of BPPD and staunch support of our IPM efforts over the past four years.

We are pleased to announce Robert (Bob) McNally as the new Director of BPPD. Bob brings over thirty years of Federal Service to his new position. In addition to considerable management experience within the Office of Pesticide Programs, he possesses a wealth of experience in pesticide regulatory, policy and program implementation. Most recently, Bob served as the Director of Field and External Affairs Division where he provided critical oversight of several significant issues, including worker protection/applicator certification and training rulemaking; liaison efforts with States, regions, tribes and the international community; and extensive outreach and communication activities, including creative use of social media to reach wider audiences to describe EPA regulatory efforts. He also has experience with school environmental health issues as he managed the implementation of the Asbestos-Containing Materials in Schools Rule. Welcome Bob!

EPA Center of Expertise for School IPM Fully Staffed!

The Agency has completed staffing of its Center of Expertise with the addition of Marcia Anderson. Marcia was most recently with the Pesticides Program in EPA Region 2 (Edison, NJ) as a bed bug and vector management specialist. She joins the other Center staff who include Thomas Cook, Sherry Glick, and Brad Miller.

Brian Davidson's appointment with the Agency ended in early July. The Center and larger Office of Pesticide Programs thank Brian for the significant contributions he made to the program and wish him the best in his future endeavors.

Thomas Cook

Sherry Glick

Brad Miller

Marcia Anderson

Upcoming Events

2013 International Conference on Pollinator
Biology, Health and Policy
August 14-17, 2013
State College, PA
http://agsci.psu.edu/pollinator-conference

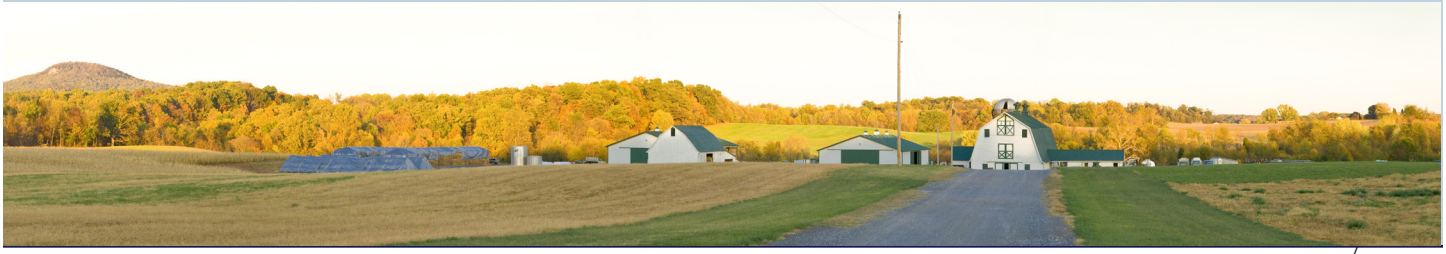
Association of Structural Pest Control Regulatory
Officials (ASPCRO) National Meeting
August 18-21, 2013
Atlanta, Georgia
http://www.aspcro.org/?q=upcoming

Oregon 2013 School IPM Coordinator Training
September 27, 2013
Coquille, Oregon
http://www.ipmnet.org/tim/IPM_in_Schools/Flyer_Coquille_Training_2013.pdf

Texas School IPM Coordinator Training
September 18-19, 2013 in Tyler, TX
October 15-16, 2013 in Houston, TX
http://schoolipm.tamu.edu/training/

Biopesticide Industry Alliance (BPIA) Semi-Annual Meeting
October 9-11th
Arlington, Virginia
http://www.biopesticideindustryalliance.org/

PestWorld
October 22-25, 2013
Phoenix, AZ
http://www.npmapestworld.org

Entomology 2013: Entomological Society of America Annual Meeting
November 10-13, 2013
Austin, TX
http://www.entsoc.org/entomology2013

Mark Your Calendars!
8th International IPM Symposium
March 24-26, 2015
Salt Lake City, UT