

# School IPM 2015

## Reducing Pest Problems and Pesticide Hazards in Our Nation's Schools

School IPM 2015 Newsletter: June 2013

### In This Issue

[What's New?](#)

[Upcoming Events](#)

[School District Survey Reveals  
Successes and Opportunities](#)

[Keller Independent School District  
Does IPM Right](#)

[Mosquito Management Takes a  
Community](#)

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### Greetings from School IPM 2015!

Every day, 49 million children attend school in the United States, served by nearly seven million teachers and staff. But they're not alone. Schools are also frequented by a number of pests including cockroaches, mice, dust mites and more. Asthma is epidemic among children, impacting nearly 6% of school children nationally with rates as high as 25% in urban centers. Cockroaches are potent asthma triggers.

Integrated Pest Management (IPM) is a prevention-based, highly effective approach proven to reduce pest complaints and pesticide use by up to 90% in schools and other public buildings. IPM practices such as sanitation and exclusion also improve food safety, fire safety and energy conservation. Our newsletter highlights real-life examples of IPM in practice and can help you start an IPM program in your school district. For more information, visit [www.schoolipm2015.com](http://www.schoolipm2015.com).

### ➔ School District Survey Reveals Successes and Opportunities

A national school IPM working group was formed in 2006 to coordinate and accelerate school IPM adoption in US public schools. Since then, over \$4.4 million has been leveraged from the USDA National Institute for Food and Agriculture, USDA IPM Centers, US Environmental Protection Agency (EPA), US Department of Health and Human Services Centers for Disease Control and Prevention, state lead agencies and others to support school IPM. School IPM demonstrations and regional school district coalitions have impacted over 4.5 million students and 400,000 staff since 2006. The national working group, composed of four regional working groups and coordinated by a steering committee, has grown to more than 240 members.

The working group distributed a [state-level survey](#) in 2012 and is now wrapping up a survey of US public school districts to measure progress towards the goal of implementing IPM in all US public schools by 2015. The survey, produced with support from a 2010 US EPA Pesticide Registration Improvement Renewal Act (PRIA) grant, has been distributed to public school districts in 41 states in partnership with leaders in each state. Eight states conducted independent surveys, which will be integrated into the results from the district survey. Topics covered in the survey include IPM policies and plans, IPM coordinators, IPM tools or resources in use, pest management strategies, funds spent on pest management and tracking of pest complaints, pesticide applications and pest management costs.

The response goal for the survey is 40% of districts in each state. As of



## What's New This Month

Texas A&M AgriLife Extension, in partnership with eXtension, created two school IPM online learning modules to help the IPM coordinator educate teachers about school IPM in Texas. The first module covers what school IPM is, why staff should be concerned and chain of command. The second module is designed for teachers who have gardens, ag science classes or others who work outdoors and with volunteers. Both modules are free but [registration](#) is required.

## Upcoming Events

July 17, 2013

Oregon State University IPM  
Coordinators Training  
LaGrande, OR  
[More Information](#)

July 19, 2013

Oregon State University IPM  
Coordinators Training  
Ontario, OR  
[More Information](#)

August 8, 2013

California DPR School IPM  
Training Workshop  
Eureka, CA  
[More Information](#)

early June, 22 states had reached that goal. Eight other states were just shy of the 40% goal. Of a total of 2,479 districts that have responded as of June 1, 50% reported that they had written IPM policies and 46% had written IPM plans. Additionally, 52% had an IPM coordinator, most with more than two years of experience. More than 83% of districts reported that only licensed pesticide applicators applied any product in school buildings. The findings likely suffer from bias, i.e., districts with an IPM coordinator are more likely to be in a position to respond to the survey.

The survey identified opportunities for improvement. More than half of districts reported applying pesticides on a regular or routine basis in and around school buildings. Although more than 42% of responding districts report using pest or IPM factsheets, only 17% use IPM training tools for staff and 14% read IPM newsletters.

Results from the survey are being used to update the action plan in *School IPM 2015*, the pest management strategic plan for US public schools. More information on the School IPM 2015 initiative can be found [here](#).



## Keller Independent School District Does IPM Right

Keller Independent School District (ISD) started an in-house IPM program five years ago, hiring and training two IPM specialists and two in-house technicians. Before the IPM program, "we averaged 600 pest management work orders per year," reports John Gann, director of maintenance and grounds at Keller ISD. "Compare that number to this year where we have only had 14."

This reduction is due in part to staff education throughout the district. Teachers are trained to seal food and other items that can attract pests, including crayons, in plastic containers. The district hosts trainings three times per year to teach staff how to spot signs of pests and communicate with maintenance staff about pest issues. "We also watch the articles that come out [in trade magazines and from National School IPM Working Group members] and pick out tactics that we can pass on to the teachers. Sometimes we even send materials home with the kids," says Gann. He stresses the importance of teaching families how to manage pests at home so students don't bring them to school.

Keller also works hard to improve indoor air quality (IAQ) which goes hand-in-hand with the IPM program. For example, keeping exterior doors closed at all times, and installing door sweeps keep both pests and dirt and other contaminants out. These simple practices can reduce pest pressure, improve IAQ and decrease costs by reducing the frequency of filter changes.

Grounds and maintenance personnel at Keller ISD test door sweeps using artificial smoke to check if they need to be replaced. Gann suggests using grounds staff to inspect and replace door sweeps on rainy days when outdoor maintenance tasks are on hold.

Inspections are key to the success of the IPM program. Staff specialists conduct thorough outdoor inspections twice per year and kitchen inspections monthly. "The more often they walk through a building, the easier it gets. There also isn't the same amount of work that needs to be done now that the IPM program is running smoothly," says Gann. The

August 18-21, 2013  
ASPCRO National Meeting  
Atlanta, GA

[More Information](#)

September 18-19, 2013  
Texas School IPM Coordinator  
Training  
Tyler, TX

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October 15-16, 2013  
Texas School IPM Coordinator  
Training  
Katy, TX

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October 22-25, 2013  
NPMA PestWorld 2013  
Phoenix, AZ

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November 10-13, 2013  
Entomological Society of  
America (ESA) National Meeting  
Austin, TX

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November 13, 2013  
TIPMAPS Annual Conference  
Austin, TX

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IPM team also relies on the general repair technicians to alert them to pest-conducive conditions.

Gaining administrator buy-in for an IPM program is critical. "The administration was used to a contractor coming in and spraying whether we needed it or not, making everyone feel like something had been done. Once we switched to IPM, the administration and staff didn't see what we were doing anymore," says Gann. He recommends making educational pest management presentations at board meetings. "We told them that they would see us in the building, but it would be more of an investigation rather than someone with a sprayer on their back," comments Gann. [Highlighting the asthma and allergy](#) symptoms that can result from exposure to cockroaches, mice and dust mites is a strong selling point given the strong link between fewer asthma attacks and increased student attendance. Gann reports that Keller ISD's attendance increased from 94% to 97-98% in the five years since they implemented IPM and aligned with their IAQ program.

Other schools in your area may be dealing with similar pest problems. Networking with those schools can provide new ideas to handle difficult pests. Organizations such as the Texas Integrated Pest Management Affiliate for Public Schools (TIPMAPS) and [extension services](#) in your state are good sources of information and tips.



## Mosquito Management Takes a Community



Mosquitoes are a growing concern as a public health risk in the US. West Nile Virus has overtaken bee stings as the leading insect-related cause of death in the US. The virus, transmitted through saliva when the mosquito feeds, results in fever in one in five cases. More serious neurological complications develop in less than 1% of infections, resulting in 286 deaths in the US in 2012. Outbreaks of West Nile Virus are often precipitated by a mild winter, wet followed by dry weather, and high summer temperatures.

There are 172 species of mosquitoes in the US. They live from four to 30 days, depending on the species, with much of that time spent in or near water. Mosquitoes are broadly categorized as floodwater or standing-water species. Floodwater mosquitoes are excellent fliers, traveling five to ten miles to find a host, which makes them difficult to manage. Their eggs can also survive in dry soil for up to two years while waiting for rain. Fortunately, most are not disease vectors. According to Mike Merchant, extension urban entomology specialist with Texas A&M AgriLife Extension Service, management strategies include draining marshes, floodwater control and avoidance. Standing-water species include more disease vectors. Many are not great fliers and do not stray as far from their breeding site to find a host.

Mosquitoes breed anywhere there is standing water, which can include playground equipment or empty soda cans left behind by students. "It doesn't take anything more than some water and a little bit of organic matter and bacterial growth to encourage mosquito breeding," comments Merchant. Anything that holds water for ten to 15 days will work. Breeding sites can be in hidden spots where people do not

frequently go. "It's not always very obvious that you have mosquito breeding going on," warns Merchant.

In addition to eliminating standing water on school campuses, mosquito mobility dictates that school districts work with their local governments to address sources beyond the campus. Community mosquito management programs should use the SSLAP approach: surveillance, source reduction, larvicides to treat breeding sites, adult mosquito control and public education. "You can't eliminate any of these things and still get effective control," says Merchant.

Surveillance includes checking breeding sites. "This is a challenging job because the breeding sites can be hidden or in locations that can't be easily accessed," notes Merchant. Several options for monitoring are gravid traps and light traps. Gravid traps are essentially plastic tubs filled with fermented water and grass or hay infusions, called "stink water," and a trap above with a fan that draws the mosquitoes in. Light traps are often paired with carbon dioxide or dry ice to make them more attractive.

Merchant recommends setting up permanent traps and monitoring them consistently on a weekly basis throughout the season. Traps should be set up every one to four square miles, which can be labor intensive and expensive, but is necessary to monitor effectively. Trapped mosquitoes should be sent to a lab that is capable of analyzing for disease pathogens.

There are some effective standing water treatments, including *Bacillus thuringiensis* granules or briquettes, methoprene granules and biodegradable films. Fish can also be used as a biological control in abandoned swimming pools, temporary ponds and streams. Merchant notes that insecticide use for adult mosquitoes is neither effective nor desirable. "We would much rather stop the mosquitoes before they become adults," he says. With this in mind, spray trucks are viewed as a tool of last resort. Residual insecticides can be used for temporary control while students are in school in the spring or fall, as long as they are not applied in areas where children could come into contact with them. Bug zappers and citronella plants are not effective. Make sure you have a policy of keeping exterior doors closed to keep mosquitoes out of school buildings.

Many personal repellents are effective against mosquitoes. DEET repellents are one option, and the Centers for Disease Control and Prevention has identified other types that work well. Repellents that do not contain DEET will need to be reapplied more frequently. Some options include repellents that contain Picaridin (Cutter brand), lemon oil of eucalyptus (Repel brand), soybean oil (Bite Blocker), and 2-Undecanone (BioUD).

For more information on mosquito management, visit [Mosquito Safari](#), the [Insects in the City blog](#), the [eXtension page on mosquitoes](#), and a recent [eXtension webinar on mosquito prevention and management](#).