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.

Don't Invite Pests to Breakfast

Students learn better when they eat breakfast, and for many schools, that means a breakfast-in-the-classroom program. Studies have shown that students who eat breakfast at school have better attendance, are less likely to be tardy and exhibit fewer behavior problems than those who don't. Can you serve breakfast in the classrooms and keep pests out? Evidence suggests the answer is yes.

Lake Worth Independent School District (ISD) in Lake Worth, Texas has run a successful breakfast program for more than 15 years. Every morning, kitchen staff prepares bagged breakfasts for students, including juice, milk, crackers, and yogurt or donuts. The bags are then put inside large plastic totes and placed on carts outside each classroom five to ten minutes before school starts. After calling roll, the teacher collects the cart from the hallway and distributes the bags.

When children have finished eating, all trash is placed back in the tote and left on a trash cart outside the classroom door. Custodians collect trash from the hallways, usually no more than an hour or two after
breakfast, and take it outside to the dumpster. According to Jeff Thomas, director of operations and IPM coordinator for Lake Worth ISD, “if the food was left in the classroom trash, it would be an open invitation to any roaches and rodents in the area.” Ideally, no food or food scraps will be left in the classroom after breakfast. Any teachers who keep leftover food are required to use airtight containers. Any beverages are kept in a small refrigerator in each classroom.

Handy IPM tips include:

- Keep paper towels or wipes in each classroom so students and teachers can clean desks after breakfast.
- Classrooms where food is eaten may need to be vacuumed or mopped more frequently.
- Consider shampooing carpeted classrooms in the winter and summer. Depending on the children's age and the menu, carpets may need to be shampooed more often.
- Custodial and food service staff should work together to ensure that food is both nutritious and easy to serve, eat and clean up. For example, consider serving bagels or tortilla wraps instead of muffins to reduce crumbs.
- If a cockroach or rodent problem occurs in a classroom, a full-court press needs to be applied to inspect, monitor, seal entry points and harborage, trap rodents, and thoroughly HEPA-vacuum up droppings, cockroach cast skins and other pest debris. Cockroach baits can be used in areas inaccessible to children if needed to resolve the problem. As a last resort, breakfast may need to be moved to another location temporarily.

Training staff is critical. According to Thomas, “Nearly every time a teacher put in a work order for a pest problem, we discovered food stashed in a cupboard or drawer. From time to time a teacher will forget and throw breakfast leftovers in the classroom trash can. I try to remind all the teachers regularly that they have a vital role in preventing pests.” He recommends occasionally attending faculty meetings and handing out IPM fliers to staff.

Lake Worth ISD also details the measures taken to discourage pests in their breakfast and lunch programs in their IPM plan, which is updated regularly. “With consistent and repeated communication and reminders to staff, it's feasible to have breakfast in the classroom while still practicing IPM,” says Thomas.

US School IPM "Report Cards" Show Progress

In 2006, a national school IPM working group was formed 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. The national working group, composed of four regional working groups and coordinated by a steering committee, has grown to more than 240 members.

In 2008, the Working Group distributed surveys to develop a baseline understanding of pest management practices in order to track progress
over time. Surveys were sent to knowledgeable leaders in each state who could best report on the status of school IPM programs in their state. This year, with support from a 2010 US EPA Pesticide Registration Improvement Renewal Act (PRIA 2) grant, a follow-up online survey was distributed to state leaders. Thanks to the efforts of the many state leaders, results were obtained from 37 states in 2008 and 49 states in 2012. Results show progress for school IPM implementation in the last four years, including:

- States reporting a statewide, coordinated IPM effort with multiple agencies and institutions engaged jumped from five in 2008 (10% of respondents) to 21 in 2012 (42% of respondents).
- The number of school staff who attended IPM trainings was more than three times higher in 2012 than 2008. Additionally, the number of school districts that provided internal IPM training programs increased from 44 in 2008 to 906 in 2012.
- Schools reported an average of eight different types of IPM communications (e.g. newsletters, listservs, webinars) that were distributed to school districts in 2008, and an average of 21 in 2012. This amounted to a total of 165 communications in 2008 and 737 in 2012. The total number of school districts receiving these communications also saw a significant increase, from 1,793 in 2008 to 3,530 in 2012.
- Nationally, public funding budgeted for school IPM increased from $14,500 per state in 2008 to over $33,000 per state in 2012.

The Working Group is also collecting responses on two additional surveys-a coalition survey and a school district survey. Coalition school districts will complete the survey as a training exercise, and update it periodically to gauge progress. The school district survey is intended to measure progress towards the goal of implementing IPM in all US public schools by 2015; it is being emailed to public school districts in partnership with leaders in each state. Results will be used to update the action plan in School IPM 2015, the pest management strategic plan for US schools. More information on the School IPM 2015 initiative can be found here.

Make IPM Fun and Educational

Educators can now choose from a variety of curriculum tools including games, videos and comic books that can make learning about pests and IPM more fun than ever! Teachers can include IPM lessons in units on science, language arts, health, art and geography.

The Bed Bugs and Book Bags curriculum from the University of Florida is geared toward grades 3-5 and meets Sunshine State Standards for health education. The curriculum focuses on bed bug feeding, harborage and prevention, and includes hands-on activities. The National Pest Management Association's Pest World for Kids, designed for grades 3-5, includes writing assignments, lesson plans and games such as Archibald's Adventure, in which the character is an odorous house ant on the hunt for food.

The University of Nebraska-Lincoln's Pest Private Eye and the Case of IPM in Schools, for grades 4-6, is an educational video game in which students play a detective to solve pest problems using IPM. IPM Super Sleuth from the IPM Institute of North America includes quizzes, virtual house inspections, word searches, crosswords and word matching games.
for grades 1-7. The *D.B. Pest Game* from Penn State Extension leads children on a virtual chase through a home to answer pesticide safety questions. It is designed for kindergarten through fourth grades.

There are also Spanish-language IPM resources available, including fact sheets and education and outreach packages.

Pest behavior and biology is an important part of IPM. Teachers can supplement an IPM curriculum with fun, educational videos on insects. *The Bug Chicks*, Kristie Reddick and Jessica Honaker, produce videos, podcasts and instructional media presentations on entomology for the US Forest Service, the National Ag Science Center and others. Their goal is to “turn fear into fascination.” Reddick and Honaker created a Vimeo channel to showcase their productions, which includes a video series on the insect orders.

**School IPM Business Case and Asthma Documents Illustrate IPM Benefits**

Last year, the National School IPM 2015 Steering Committee released two documents to educate schools and parents about the cost benefits and asthma reduction that can be achieved through IPM implementation. *Reducing your Child’s Asthma using Integrated Pest Management: A Practical Home Guide for Parents* shows the link between asthma and asthma attacks, and common allergens such as cockroaches, dust mites and rodents, or irritants like pesticides, cleaning products and aerosols. The *Business Case for Integrated Pest Management in Schools: Cutting Costs and Increasing Benefits* presents case studies of schools that have implemented IPM and are models of the financial and other benefits that can be reaped from the transition from conventional pest management methods to IPM.

If you have not yet seen these two publications, please take a look and consider sharing them with others who might appreciate the information.