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.

Building Out Pests: Interior Spaces

Designing, maintaining and operating buildings and grounds with a focus on pest prevention is a great investment that pays off in fewer pest complaints and less pesticide use. This final article in our three-part series focuses on pest proofing in kitchens and cafeterias, classrooms and other interior spaces in new construction and existing school buildings. If you missed part one on foundations, roofing and architectural elements, please see the October School IPM 2015 eNewsletter. For part two on doors, windows, exterior lighting and landscaping, please see the November School IPM 2015 eNewsletter.

Well Designed Can Equal Pest Free

Kitchens provide a particular challenge to pest management, with many opportunities for food, water and harborage. In all kitchens and cafeterias, flooring should be durable and easy to clean. Traditional ceramic tile floors have a tendency to crack and deteriorate over time, allowing water and organic material to penetrate and attract pests. Epoxy finishes and sealed concrete floors are growing in popularity and, if maintained properly, do not provide harborage for pests.

Failure to plan enough storage space leads to unnecessary clutter and items being stored on the floor and stacked against walls. Dr. Michael Merchant, professor and extension urban entomologist at Texas AgriLife Extension Service, recommends space-efficient stainless steel shelving on wheels and 12-18” of clearance under all shelves to allow for inspection and cleaning. Wire shelving prevents food particles and other debris from collecting on shelves.
Suspended ceilings, which leave space above for ductwork or wiring, "can become super-highways for rodents," says Dr. Chris Geiger, municipal toxics reduction coordinator for the San Francisco Department of the Environment. All penetrations for ducts, wires or pipes in these areas should be sealed to prevent rodents from traveling easily from one part of the building to another. Additionally, avoid using coved baseboards, or those that curve in at the bottom, because they can create a space behind the baseboards that isn't easily inspected or cleaned.

Dry floor drains are an open invitation for pests to enter your facility, especially American cockroaches and rodents. Ensuring that traps in infrequently used drains are filled with water can prevent pest entry. Mineral oil can also be added to slow evaporation.

Rubber trap guards can be used to seal the drain when it's not in use while allowing water to pass through. All drains should be located in accessible places, so they can be easily inspected and cleaned.

Sealing Out Pests
Openings around electrical conduits, heating ducts and plumbing pipes should be sealed because they can be used as passageways by rodents and insects. Sewell Simmons' article, "Pest Prevention Construction Guidelines and Practices," published in the Journal of School Business Management, suggests that, "Junctures where utilities such as pipes and cables enter structures require special consideration to prevent pest entry." Pipes, ducts and cables that run through walls should fit tightly, with no space around the edges, using fire-stop sealant where recommended or required.

According to Geiger, "To facilitate easy inspections, plumbing and electrical areas of the building should be designed with easy access in mind." Leaking pipes provide a source of water for pests including mold. Mechanical, electrical and information technology rooms or closets generally have penetrations that may require inspection and maintenance, and also often contain heat sources that are attractive to...
Cockroaches are thigmotactic, meaning they prefer to rest where surfaces touch both the top and bottom of their bodies. This makes crevices behind bulletin boards, paper towel dispensers, mirrors and even paper announcements tacked to the wall good hiding places. These are especially attractive to roaches when they are located in kitchens, which can also provide convenient food and water sources. Permanent wall-mounted fixtures should be sealed around the edges. Papers should be taped all the way around the edges to prevent cockroaches from getting underneath.

Remember that even with initial pest-proofing or building renovations, school facility managers should conduct a thorough walk-through annually to check for cracks and crevices, broken door sweeps, moisture and mold growth, termite tunnels and bird roosts. Although a contracted PMP may be providing regular updates, school staff should also conduct their own evaluation as part of their oversight. According to School IPM 2015: A Strategic Plan for Integrated Pest Management in Schools in the United States, a written IPM inspection checklist can be used for periodic inspections, listing each area to be inspected and providing a space to note needed repairs.

Geiger summarizes, “It all boils down to food, water, harborage and access. If you can minimize those things, you’re making good progress towards an effective IPM program.”

Pest Presses Provide a Wealth of Information

Do you find yourself stopping strangers on the street to tell them about pest management, and wonder if there's an easier way? There is - pest presses!

Pest presses are typically one to two pages long, conveying pictures and concise information about a timely pest management topic, distributed to those who need to know including teachers, custodians, maintenance and food service professionals. Pest presses most often contain pest-specific control tips and fun facts to know and tell about pests encountered in schools including cockroaches, rodents or bed bugs. They might also provide key information about legislative or school policy mandates, ideas for “pest-proofing” classrooms or tips for managing “clutter bugs,” those two-legged pests who insist on keeping everything lest it be needed at some point in the far-off future, creating harborage and often food sources for pests (think macaroni, rice for art projects to come). According to Dawn Gouge, associate professor and associate specialist on urban entomology at the University of Arizona, “The ultimate goal of pest presses is to improve knowledge, communication and involvement of all community members.”

Carrie Foss, urban IPM director for Washington State University, reports, “Pest presses should be written and formatted in a way that's going to engage teachers and staff, so they'll read it and carry the message forward.” Foss says it's important for pest presses to contain practical tips that are useful to professionals working in schools. They should be straightforward and concise, focusing on the main message.

Entomologists, plant pathologists, wildlife biologists and other IPM enthusiasts have published a wide variety of pest presses to connect
school staff with our growing body of IPM knowledge. "Pest presses provide an increased awareness of IPM solutions as well as health and safety issues, and help maintain a level of consciousness about pests and eliminating pest-friendly conditions," says Gouge. The more easily accessible the information is, the better it can be transmitted to school staff and officials.

A good pest press will have been peer reviewed by at least one other expert for content and accessibility. Foss works with the Urban Pesticide Education Strategy Team (UPEST) to develop pest presses for the Pacific Northwest region. She stresses the importance of a collaborative effort between agencies to create useful editions. The best releases contain easily understood information to ensure their effectiveness even with those who have no familiarity with IPM. The information can often be applicable both at home and school, so some pest presses are relayed to parents by students and teachers.

Pest presses can be posted in visible locations in schools, such as staff break rooms, where teachers and other staff are likely to read them and pick them up. Links to pest presses can also be included in monthly school newsletters circulated to staff and parents. They're great training materials for "coalitions" working with school districts to implement IPM. Foss says it's a good idea to have hard copies available at coalition meetings.

Pest presses are ideally released on a monthly or quarterly basis. Here are links to several collections of pest presses, addressing everything from head lice to bed bugs in schools:

- University of Arizona
- Western Region School IPM Work Group
- UW Extension
- Alabama School IPM Program of Auburn University
- University of Florida
- Urban Pesticide Education Strategy Team (UPEST) of Washington
- Colorado State University

Allen Wilson, founder and owner of Safe Zone IPM Consultation Services based in Ohio, is currently working under a grant from USDA through the North Central IPM Center to distribute six pest presses. Wilson serves as IPM coordinator under contract to Westerville City Schools, the tenth largest in Ohio and a recipient of US EPA's Children's Environmental Health Award. Under the grant, Wilson will provide custom pest presses for schools. Any school interested in receiving the editions can submit their information and logo to Wilson to add to the document, creating a personalized pest press for that school. "Education is the key to a successful IPM program; pest press newsletters provide strategies and information that helps school IPM coordinators as well as faculty and staff manage pests more effectively and safely," according to Wilson. Pest presses created by Wilson in collaboration with the non-profit Improving Kids' Environment can be found on the IPM Institute Resources page.

Pest presses are one of many tools that districts can use to educate staff and others about their roles in IPM programs. Give them a try and let us know how it's working for you!
Parents: Become an Advocate for IPM in your Child's School

A new article from the University of Florida posted on the National School IPM Information Source gives tips for parents who would like to improve IPM implementation in their child's school.

The article reports that the most important step in becoming a persuasive IPM advocate is to educate yourself. Parents should understand the premise of IPM and how it is different than conventional pest management methods. A key difference is that IPM programs rely on sanitation and exclusion as the first line of defense against pests - not routine applications of pesticides.

Getting others involved is another way to drive change. Consider talking to other parents or to Parent/Teacher Association (PTA) leaders to build a stronger case and support base before approaching the school board or other decision-making body.

A good first action step is to get an IPM policy statement adopted by the board. Policy statements can be brief, focusing on the goals of the IPM program. With expert help, parents can work to establish a pilot in several schools, one school or just a portion of a school to demonstrate the benefits. Demonstration schools use proven approaches, such as site assessments, workshops, targeted newsletters and pest monitoring to reduce pest complaints and pesticide use, and to train an initial cadre of school food service, custodial and maintenance staff, who can then help train others throughout the district.