School IPM 2015

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

School IPM 2015 Newsletter: March 2013

In This Issue

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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.

Weed Management in Hard-to-Reach Places

Most schools have at least one place on campus with weeds that are difficult to manage such as along fence lines or around bleachers. An IPM approach can save time and money according to Dr. Robert Hartzler, extension weed specialist and professor of agronomy at Iowa State University. "The best preventative measure for weed management is to provide a less favorable environment for weeds to get started."

Mulches and weed barriers, when used properly, are useful tools. Both Hartzler and Phil Boise, director of GreenCare for Children, recommend removing weeds before installing barriers or mulches. "Many perennial weeds can grow through mulches and barriers, so they'll rapidly destroy that barrier and provide the opportunity for annuals to gain a foothold as well," says Hartzler. Boise also suggests having a defined margin that extends down into the soil four to six inches around a mulched area. This keeps weeds from creeping in from surrounding areas.

Handheld liquid-propane flamers can be an alternative to hand weeding. "This technique is most effective when the weeds are small. As weeds get bigger, more fuel is required to kill them," comments Hartzler. Care must be taken to prevent burns to the applicator. Repeated treatments will be required as the weeds grow back.

Concrete, brick, or paver mowing strips can be installed around trees and planting beds, and under bleachers and fences. These strips keep weeds from growing in areas that can't be easily mowed. Boise

What's New This Month

National Healthy Schools Day is April 30, 2013. It is coordinated by the Healthy Schools Network in cooperation with US EPA. It promotes the use of IAQ Tools for Schools, other EPA environmental health guidelines and programs for schools and children's health.

The Northwest Center for Alternatives to Pesticides (NCAP), with support from the Western IPM Center, USDA NIFA, Oregon State University and Eden Advanced Pest Technologies, created a three-part video short series on mouse control in urban environments including videos on exclusion, sanitation and trapping.

Upcoming Events

April 17-18, 2013
Texas School IPM Coordinator Training
Waco, TX
More Information

April 27-30, 2013
National School Plant Managers Association Meeting
San Antonio, TX
More Information

September 18-19, 2013
Texas School IPM Coordinator

recommends that a mowing strip extend down about six inches into the soil and be both wide and sturdy enough to hold the mower deck, or tall enough that weeds running up against the strip can be cut using an edger.

On lawns and athletic fields, thick, healthy turfgrass makes it more difficult for weeds to gain a foothold. Regular aeration is important to prevent compaction, especially on heavily used playing fields. For more information about turf grass overseeding and aeration, see *Overseeding Turf in Northern Regions*.

Intended use is a critical variable to consider when dealing with turf. Phil Boise recommends taking into account the function of the location because "not all turf areas need to be top-notch sports turf." Turf areas where children play at recess, eat lunch, or wait for a bus don't need to be a monoculture of one species of grass, but can instead be viewed as a meadow with a higher tolerance for other plant species.

If herbicides are part of your IPM approach, make sure you do your homework when choosing products. Identifying the particular weeds you are dealing with is an essential first step. Many herbicides are effective against a narrow range of weeds. Reduced risk options are available. EPA minimum risk pesticides, sometimes referred to as 25(b) products, are considered "demonstrably safe for their intended use." Some 25(b) product options include Ecosmart Weed and Grass Killer, Weed Zap and GreenMatch Burndown Herbicide. Protective equipment should still be used with minimum risk pesticides. "Just because they are made from natural compounds doesn't mean they don't carry risks," says Hartzler.

The Pesticide Hazard and Exposure Reduction (PHAER) Zone System, developed by Boise, can provide a road map for schools to prioritize areas of their grounds according to pesticide exposure risk. The PHAER System helps schools focus their limited resources on the areas where children spend a lot of time and have the greatest risk of pesticide exposure, such as near sand boxes, playgrounds and walkways. More resources are devoted to these areas so that techniques such as hand weeding, flaming or mulching can be used in place of pesticides. The school campus is mapped and areas are given color designations of green, yellow or red. Green areas are those that will receive the most resources. Each color has a corresponding approved materials list. "The advantage of mapping is that the grounds crew knows where they can and cannot apply pesticides," comments Boise. "This is a decision-making tool that lets every district budget for and measure their IPM goals based on their own priorities and resources."

Scruffles the Mouse Teaches IPM

Training
Tyler, TX
More Information

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

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Want to teach school staff some simple IPM techniques in just a few short minutes? Orange County Public Schools, in conjunction with Orlando Tech Animation, created several video "shorts" on IPM topics. The videos, which feature a cute animated mouse named Scruffles, run from one to two minutes long and include IPM basics, bed bugs, head lice, ants, rodents and cockroaches. In addition to presenting useful IPM tips, Scruffles has a tongue-in-cheek charm. In the rodent video, he comments that as a mouse himself, "I have certain expertise in these matters."

Scruffles maintains that "the key to a successful IPM program is to think like a bug." This allows you to make decisions about pest management that are tailored to the types of pests your school deals with. For example, the two most common types of cockroaches in the US live in different environments. German cockroaches like warm, moist areas while American cockroaches prefer cool places. Knowing which type of cockroach is in your facility can help you target management approaches to avoid wasted effort.

Pest management is everyone's responsibility, especially when it comes to pests such as cockroaches that can trigger asthma attacks or worsen symptoms. "Dead roaches are a custodial issue, but anyone can dispose of them regardless of their job title," advises Scruffles. Dead cockroaches pack a double punch: not only are they potent asthma triggers, but other cockroaches might use them as a food source. Once a high-level IPM program is implemented and pests are being prevented from entering the facility, dead cockroaches should be a thing of the past.

The head lice video points out that schools need to stay vigilant about preventing the spread of lice. "There is no scientific justification to spray for head lice at home or in the school environment," says Scruffles. Instead, school nurses should check students for lice if an outbreak is suspected. If ants are a problem, sanitation can stop them from coming back to a kitchen or classroom. Leftover food and drinks, overflowing garbage cans, and food spills can be the culprits in ant infestations. Remove these temptations and clean up pheromone trails left behind by ants.

Significant Asthma Reduction through IPM

Did you know childhood asthma treatment costs about $3.2 billion each year? Asthma is also the leading cause of school absences, with about 14.4 million lost school days in 2008, according to the Centers for Disease Control and Prevention. To address the role of IPM in reducing asthma, Green Shield Certified (GSC) hosted a webinar, *Reducing Asthma Triggers Using Integrated Pest Management Techniques*.

Dr. Chad Gore, former research associate at North Carolina State University and currently entomologist and regional technical manager for Rentokil, noted that cockroaches, rodents and dust mites are potent asthma triggers through protein allergens found in saliva, skin casts, droppings and urine. These become airborne and can trigger asthma attacks or increase the severity of asthma symptoms. German cockroaches generate seven different types of allergens, and a single cockroach produces about 1500 units of one particular type of allergen.

Asthma symptoms develop in a person who is sensitive to this type of allergen in the presence of just eight units.

In a study of cockroaches in the home conducted by Gore and colleagues, a combination of IPM methods including monitoring, bait, professional cleaning services and resident education led to a 96-100% cockroach and allergen reduction over just six months. The same study confirmed that gel insecticide baits alone can significantly reduce cockroach allergens in homes.

John Kane, IPM coordinator and planner for the Boston Housing Authority (BHA), described BHA's implementation of an IPM program through a grant from the Healthy Pest Free Housing Initiative. BHA originally piloted IPM in 15 developments over three years. Public housing residents were trained as community health advocates to educate other residents through community meetings. Experts were brought in to present at staff trainings. The pilot sites were regularly inspected and problem units were placed on a focus list for more action to be taken. Emphasis was placed on exclusion and using gels and baits with no sprays in apartments.

Kane noted a decrease in reported asthma symptom incidence in adults from 23% of the total BHA housing population in 2006 to 13% in 2010. There was no notable decrease during this time among residents of other subsidized, non-BHA housing and all other Boston housing. "While we cannot claim that there was a direct cause and effect of our IPM program, we do think there's a strong association," says Kane.

Kane also reported challenges that continue to face the BHA and can impact school environments as well. Staff turnover can make it difficult to maintain IPM expertise. Old buildings can also pose a challenge to IPM exclusionary efforts.

GSC is a structural pest management certification program that evaluates and certifies the pest control practices of pest management providers and facilities. Pest management providers may certify their entire company or a single service they can offer to customers interested in less-toxic pest management. Green Shield Certified standards require pest management providers and facilities to undergo a rigorous, on-site evaluation by an IPM specialist.