

# School IPM 2015

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

School IPM 2015 Newsletter: April 2013

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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).

### Canada Geese Go To School



School campuses often have abundant food sources, few predators and no hunting, making them ideal for Canada geese. Geese prefer groomed lawns adjacent to water, so schools with ponds or other water features, or adjacent to water are particularly attractive. Fertilized lawn grass is



## 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.

## Upcoming Events

April 27-30, 2013

National School Plant Managers Association Meeting  
San Antonio, TX  
[More Information](#)

June 12, 2013

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

August 8, 2013

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

September 18-19, 2013

Texas School IPM Coordinator Training  
Tyler, TX  
[More Information](#)

October 15-16, 2013

a preferred food source.

Canada geese can be migratory, or may be year-round residents depending on the location. Once these birds have chosen a location to nest, migrants will continue to come back year after year and can be difficult to remove. Although research has not shown significant health threats from goose feces, the mess can render playing fields unusable.

### Federal and state laws

"Canada geese are protected under the 1918 Migratory Bird Treaty Act, which means that if you collect eggs, harm their nest, or have any contact with the birds themselves, both US Fish and Wildlife and state permits are required," comments Rebecca Christoffel, wildlife specialist for Iowa State University Extension. Harassment or hazing is typically legal as long as there is no physical harm to the birds, eggs, goslings or nests. Check state laws before beginning any management plan.

### Don't feed the ducks!

Often geese and ducks are tempted to stay at a particular location because people feed them. Feeding can increase conflicts with people and the spread of avian diseases. "Canada geese are very protective during their nesting season and may chase people, particularly small children who may be loud and make sudden movements," says Christoffel. Adopt a strict no feeding policy and post signs. Keep information about the dangers of feeding wild birds on hand, such as this [brochure](#) from the US Fish and Wildlife Service (USFWS), to provide to interested parents and visitors. "If people discontinue feeding Canada geese, in many cases it would alleviate problems greatly," says Christoffel.

### Habitat modification

"If banning feeding doesn't do the trick, the next least intrusive technique involves making an area less attractive to geese," remarks Christoffel. If there is a body of water near your school grounds, consider the possibility of establishing a barrier or buffer strip of taller vegetation around the water. Geese prefer short vegetation around water, which allows them easy access to the water and a clear view of approaching predators. Plant stiff-stemmed grasses such as switchgrass or prairie cordgrass that remain tall throughout the winter. Trees and shrubs are also an option. Buffer strips should be at least ten feet wide.

The [Indiana Department of Natural Resources](#) provides some suggestions for plant varieties that can be used as a barrier, although these recommendations will not be effective in all areas of the country. More information about habitat modification can be found in the [Canada Geese publication](#) from the Humane Society of the United States.

When water bodies are present, fences and other barriers can discourage geese by preventing them from walking out of water to feeding sites. Barriers can be created from woven wire, wood, plastic snow fencing, chicken wire, silt fencing, netting, Mylar tape, or several strands of heavy fishing line or wire. The fence should be long enough so that geese will not walk around the ends.

If the water body is small, a suspended grid can be created to prevent waterfowl from accessing the water. Place stakes about five feet apart on all sides of the water and string brightly colored twine or wire between the stakes in a grid pattern.

Texas School IPM Coordinator  
Training  
Katy, TX  
[More Information](#)

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If possible, remove islands or peninsulas in water bodies. These are favored nesting sites for geese because they provide more protection. In addition, try to minimize open water during the winter months. Do not use aerators or fountains that keep the water from freezing, as migrant geese will be attracted to the open water and the spray from the fountains.

### Harassment techniques

Consider noisemakers such as firecrackers, air horns or recorded Canada goose distress calls. Be sure to check noise ordinances first. Motion sensor lights, dead goose or predator decoys, Mylar tape, and remote controlled boats or planes can also be used to scare geese away. Harassment techniques will need to be used repeatedly whenever geese return and in a varying pattern so the geese don't become accustomed to them.

A remote-controlled foam drone called the "[Goosinator](#)" has been developed to scare geese. It is currently being evaluated by the Parks Division in Madison, Wisconsin and other locations throughout the country. The Goosinator is propeller-powered and is loud enough to irritate the geese.

Several chemical repellants can be applied to grass in feeding areas. Methyl anthranilate, a grape-flavored food additive, makes grass less attractive to geese. Anthraquinone aggravates geese digestive systems and contains a UV additive that changes the appearance of the grass to the geese. This must be applied by a certified applicator. Christoffel notes that repellants can be expensive to use in a large area and you have to reapply them frequently after rain or mowing.

### Nest and egg destruction

Canada geese mate for life and often return year after year to nest in the same place. It is permissible to remove nesting material only if there are no eggs in the nest. Repeatedly removing the nesting material may force the geese to relocate.

Anyone who plans to destroy Canada goose eggs must first [register](#) with the USFWS between January 1 and June 30 of the year in which the nests and eggs will be destroyed. Each registrant must also return to the website by October 31 to report the number of egg-bearing nests destroyed. Note: Some states do not participate in this registration program or have different requirements. Check for [your state's requirements](#).

Permits are required to destroy eggs, including by oiling and addling. The [egg oiling method](#) can be used to kill the developing embryo while keeping the egg intact. Food grade corn oil is applied to the eggs, clogging the pores in the eggshell and asphyxiating the embryo. "Another technique that's used is addling eggs, where the eggs are shaken to the point where the embryo is destroyed," says Christoffel. Nesting geese will typically continue to incubate the eggs after oiling or addling, decreasing the chance that they will lay new eggs that season. Eggs can also be removed from the nest and destroyed. However, to prevent the laying of another clutch, the eggs should not be removed until they are 14 days old. To determine age, submerge eggs in a pail of water. Eggs 14 days or older will float. Eggs that sink should be oiled and placed back in the nest. Geese will aggressively protect their nest, so one person should distract the geese while another handles the eggs.

### Trapping and relocation

In most areas, trapping and relocating Canada geese requires a permit and can only be conducted during the period when the geese are molting (mid-June through early July). Geese are especially vulnerable to control techniques during their molting period because they are unable to fly, says Christoffel. Relocation is only a temporary solution, and many birds will return to the previous location once they are able to fly again.

Permits can also be obtained to trap and euthanize Canada geese. This can effectively reduce a large population. It must be done with other measures like habitat modification so new geese don't move in as soon as the original group has been removed.



## Thwarting Nuisance Pests

In temperate regions, warmer temperatures mean increasing insect activity including nuisance pests making their way into school buildings. Many of these pests can be year-round challenges in southern climates. Simple IPM tactics are often effective solutions.

### Ants

Ant identification is very important. Different species can require different approaches. Some species are drawn indoors for food or moisture including crumbs or sweet liquid spills. Prompt cleanup can stop problems before they start. If you are using baits to help manage persistent ant problems, eliminating other food sources will make the baits more attractive. Properly installing and maintaining door sweeps, and sealing cracks and crevices can make an enormous difference. Door sweeps alone have been shown to reduce pest complaints by 65%! For more information on dealing with common ant species, see the [University of Arizona's Ants Pest Press](#) and the [July 2012 issue of the School IPM 2015 eNewsletter](#).

### Boxelder bugs

In the spring, boxelder bugs often rest on light-colored surfaces on sunny south and west sides of buildings. They may also come inside if access is available. They prefer to feed on female, or seedbearing, box elder trees. If there are box elder trees near school buildings, consider replacing them with non-attractive plants. To keep boxelder bugs outside, use a sealant, weather stripping, fine-mesh screen, steel wool or expandable foam to close entryways. If boxelder bugs are gathering on the outside of buildings, wash them off with a forceful stream of water. Insecticide sprays are generally not the best approach for boxelder bugs. Multiple applications may be required, and insecticide runoff from sprayed impervious surfaces can contaminate surface water and impact aquatic organisms. For more information about boxelder bug biology and management, see the [University of California IPM Online Boxelder Bug website](#).

### Multicolored Asian lady beetles

These beetles can overwinter in structures in very large numbers, entering in the fall. Pesticides are not recommended because when threatened, they secrete hemolymph which can stain surfaces. Place sticky traps on surfaces, such as window sills, where they tend to gather. Seal cracks where they are entering the building, and vacuum up any that get in. For more information on Asian lady beetle history and behavior, see [Auburn University's Lady Beetles Pest Press](#).

### Flies

House flies, fruit flies, phorid flies and fungus gnats are often a problem in schools. They should not be tolerated as they can transmit bacteria and disease-causing organisms to food and food preparation surfaces. To keep flies out, maintain window screens and weather stripping around doors and windows. Keep dumpsters covered, clean and away from buildings. Cover or put away foods whenever possible, and promptly clean up spills and crumbs. For pictures and additional management information on flies, see [Auburn University's Flies Pest Press](#) and the [January 2013 issue of Florida School IPM News](#).



## Don't Let Bats Move Into Your School



Bats provide many benefits including plant pollination, seed dispersal, insect control and in some regions, guano that can be used as fertilizer. However, bats cannot be tolerated in school buildings due to rabies risk.

Scott Hygnstrom, professor and extension wildlife specialist at the University of Nebraska-Lincoln, points out that an individual bat in

a building should be handled differently than a colony of bats. For an individual bat, Hygnstrom recommends closing doors to limit the bat's access to the rest of the building and opening windows to let it fly out on its own. He cautions that someone should stay in the room to monitor the bat. If the bat refuses to fly out the window, wait until it tires and lands, place a plastic container over it, and slide a stiff card underneath.

Always wear gloves when there is the potential for contact with a bat. Release a captured bat as high up on a tree as you can reach. They need to be able to catch air under their wings to fly away.

If you suspect an established colony of bats, Hygnstrom recommends careful inspection including looking for guano, urine streaking along a wall or bats themselves. Also look for external entry points such as open windows or thresholds, vents, and loose shingles or siding. Consider an evening bat watch, posting observers at building corners to watch for bats exiting at night.

Once a colony of bats is discovered, a fabric or tight mesh "sock" can be installed over the bats' entry point and left open and freely hanging at the bottom. Bats will climb down inside the mesh to get out. Dianne Odegard, outreach associate for Bat Conservation International, recommends leaving the netting up for five to seven days to ensure that all bats have exited. Fans and lighting installed in an attic space may also encourage bats to move out. Once the bats are gone, use crack and crevice sealers and/or hardware cloth to seal entry points.

In the summer months, young bats are flightless. Avoid exclusionary measures so you don't separate parents from young who can't survive on their own. If bats are in a location where they will not come into contact with children, consider leaving them until after the babies have learned to fly. If this is not an option, work with a professional bat excluder to find other ways to remove the bats.

Several commonly advertised bat management devices are not effective,

notes Hygnstrom. Frightening devices such as ultrasonic sound emitters don't deter bats. Repellents designed for bats typically include compounds found in moth balls. Hygnstrom recommends avoiding these because "the amount needed to repel bats would also be repellent to humans."

There are 45 different species of bats in the US. For more information on bats and bat management, check out these websites: [CDC website on bats and rabies](#); [Bats In and Around Structures](#), an interactive e-magazine from UNL; [Bat Conservation International](#); a [webinar](#) hosted by the Urban CoP eXtension; and [Hygnstrom's eXtension page](#) on bat management.



## Get Involved in National Healthy Schools Day!

National Healthy Schools Day is April 30, 2013. Whether you are at the beginning stages of investigating healthy school environments or have an established indoor air quality (IAQ) and environmental health program, consider hosting a local activity that educates others and celebrates your school's successes. Plan an activity for your school on April 30 or anytime this spring.

The [National Healthy Schools Day website](#) gives [ideas about activities](#) that can raise public awareness about healthy school environments and get people thinking about how they can change schools for the better. Possible activities include sending a letter home to parents about your school's IAQ and environmental health programs; handing out a [tip sheet](#) to teachers and students to help them identify potential IAQ problems; getting students involved with classroom lessons or a poster contest; or conducting a [building evaluation walk through](#) with facilities staff to identify common trouble spots in and around school buildings.

Check out the [activities map](#) to see what other organizations in your area have done in the past and get more ideas for activities. Consider [registering](#) your activity so others can see it on the map and read about what you've done to promote healthy schools in your area!