



Pests and Pesticides in Child-serving Facilities: An IPM Newsletter

Special Points of Interest

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<http://ischoolpestmanager.org/index.html>

This issue

The *iSchoolPestManager* is now live and available for viewing on desktop and mobile devices. For easy access to the website please bookmark the URL: <http://ischoolpestmanager.org/index.html>. We hope you'll take advantage of this tool that contains a plethora of materials compiled by EPA, university, and Extension experts from across the U.S. and includes training modules, presentations, action plans for managing pests, guidelines, fact sheets, templates, log/forms, etc. Most of the materials can be customized. The database can be filtered by state.

The self-paced training modules (<http://articles.extension.org/pages/73468/self-paced-learning-page-for-urban-ipm>) are excellent tools for administrators and staff to use to learn about or review the roles that they play in an IPM program. More training modules will be added as they are developed. Eventually pest management professionals and facilities managers will be able to obtain certification from the National Pest Management Association after completing the training modules from *Stop School Pests*.

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Year-end Tasks

Pat Barnwell and Karen Vail



1. Reduce clutter. As teachers prepare rooms for a summer deep cleaning, ask them to discard items that haven't been used during the past year.
2. Remove food in kitchens, classrooms, and concession stands if not in pest-proof containers. Clean the teachers' lounge. Check student lockers to make sure they are free of food and food packaging.



Pretzels found in a student locker over summer vacation.

3. Ask vendors to empty all food from vending machines and to thoroughly clean inside, outside, under and behind the machines. Consider asking vendors to be responsible for the cleanliness of the machines and surrounding area in the next contract.
4. Inspect the schools and note problems that need attention. Look for gaps and holes in exterior and interior walls, leaky pipes and gutters, faulty drainage, and poorly sealed doors and pipe penetrations. Check the roof for moisture and structural problems as well as pest conducive conditions. Ask school staff to aid the inspection by submitting a list of needed repairs.

5. Deep clean kitchens, family life classrooms, and concession stands. Move equipment to clean under and behind it and steam clean to get rid of grease. Construct a list of guidelines for using the concession stand if sanitation has been a problem. Post instructions for using and cleaning equipment next to the equipment.
6. Periodically check plumbing to make sure P-traps don't dry out. Screen or add water to drains to prevent American cockroaches from entering.
7. Clean the dumpster and surrounding area.
8. Scout the grounds, including athletic fields, for fire ant mounds and yellowjacket nests. Check chain link fence covers and building perimeters for paper wasp nests.
9. Check for and remove pesticide products stored where children could access them.
10. Evaluate your IPM program and make changes if necessary. Ask your pest management professional for suggestions on improving your program.



Pesticides found in a special education classroom.

Skunks of Tennessee

Pat Barnwell



Striped skunk. Photo: <http://extension.usu.edu/wildlifeconflicts/html/featured-animals/striped-skunk>



Eastern spotted skunk. Photo: <http://www.wildlife.k-state.edu/species/skunks/>

In May and June, skunks bear their young averaging four to six kits per litter. Young will stay with the mother until fall. They will forage over an area from one-half to two miles. Most skunks live about 3 years. Two species of skunks occur in Tennessee, the striped skunk and the Eastern spotted skunk. The striped skunk is a statewide inhabitant while the Eastern spotted skunk is resident in the middle and eastern parts of the state. Striped skunks are about the size of a large house cat. Average weight of the eastern spotted skunk is two pounds. Coloring in the striped skunk is variable but usually two broad white divergent bands flank a black body. The black fur of the eastern spotted skunk is mottled throughout with white spots, stripes and patches.

Skunks den in hollow logs and under stumps, brush, rock and wood piles, fallen trees, porches, decks, sheds and buildings. Underground dens are constructed in grassy banks, rock crevices and fence rows. Den openings are 3 to 5 inches in diameter and devoid of grass. Eastern spotted skunks climb trees to den in hollow limbs. They inhabit agricultural fields, pastures, and urban areas especially in dense thickets, fence rows and borders of woodlands along streams.



Skunk damage from digging for grubs .

Photo: <https://extension.umaine.edu/gardening/ask/qa-2015/>

Foraging activity begins at dusk and continues until dawn. In spring and summer skunks forage for their preferred foods such as grasshoppers, crickets, beetles, cutworms, grubs and yellowjackets. Other items in the diet include mice, shrews, moles, salamanders, lizards, crayfish, snakes, eggs, carrion, garbage, rabbits, rats, fruit, berries, nuts, mushrooms and pet food. In cold weather, skunks remain dormant in their dens surviving on fat stores.

With well-developed claws skunks are adept at digging. Lawns with 3- to 4-inch diameter, cone-shaped holes may be a sign that skunks are foraging for grubs. Lawn care professionals or certified ground staff can control grubs by applying a product labeled for school grounds. It's best to control grubs before skunks find them.

Skunks perform valuable ecosystem services, unfortunately they are carriers of rabies. A rabies infection may not always be obvious. Both skunks and raccoons can incubate the virus for many months before becoming ill. If a skunk should wander indoors, open doors and let it leave on its own. Any skunk denning on school property should be trapped and removed by a wildlife damage control professional. Neither species is protected in Tennessee. USDA, APHIS, Wildlife Services does not allow for striped skunks to be relocated in certain eastern counties where a rabies prevention program is in place.

Seal all openings around foundations with sheet metal, concrete or 1/2-inch mesh galvanized hardware cloth to prevent skunks from denning under school buildings. Galvanized hardware cloth can be used to fence off a crawl space or open area. Bend a foot of a 3- to 4-foot wide roll of cloth to form an "L" shape. Bury the foot-wide section 2 to 3 inches underground to keep skunks from digging underneath. If spotted skunks are a problem, form an overhang of 6 inches to prevent them from climbing over the fence. Keep trash containers and dumpsters sealed to eliminate the attraction of garbage.

References: Knight, James E. Skunks. <http://icwdm.org/handbook/carnivor/Skunks.asp>

TWRA. Rabies in Raccoons, Bats & Skunks. <https://www.tn.gov/twra/article/rabies-in-raccoons-bats-skunks>

TWRA. Tennessee's Watchable Wildlife, Mammals. <http://www.tnwatchablewildlife.org/mammals.cfm>

Vantassel, Stephen et al. Dealing With Skunks. <http://extensionpublications.unl.edu/assets/pdf/g1769.pdf>



Action Thresholds

An action threshold is the point at which a PMP acts to reduce the pest's numbers. The idea behind the action threshold is that most pests can be tolerated at some low level. An occasional ground beetle in a school hallway, for example, would bother few people. The cost and risk of taking action, such as replacing door sweeps, caulking cracks in walls or applying pesticide, because of one beetle would outweigh any benefits. Besides, a lone beetle is likely a temporary guest rather than a serious pest. But thirty ground beetles in a hallway would be a different story, and an IPM technician would need to take some kind of pest management action.

Action thresholds may be based on economics, aesthetic concerns, health and safety concerns, public opinion, or legal concerns. They can be set as a number of pests or as level of infestation. Tolerance for pests will vary by location within a school and the threats they pose. Kitchen staff tend to tolerate no pests because of health concerns and inspections. Classroom teachers may tolerate a few odorous house ants, but no imported fire ants. Pests that pose a health or safety risk should trigger a quick response even when numbers are low.

Each school will set its own action thresholds. Sample indoor thresholds follow on the next page.

Sample Indoor Pest Thresholds

Pest	Classrooms/ Public Areas	Storage/ Maintenance Areas	Infirmary	Kitchen/ Cafeteria	Grounds
Ants (common house - infesting)	5/room	5/100 ft ² in 2 successive periods	1/room	3/room	2 mounds/yard
Ants (carpenter)	3/room	3/room	1/room	2/room	1 nest within 25 ft.
Ant (imported fire)	1/room	1/room	1/room	1/room	1 mound/playground or athletic field
Bees (honey)	1/room	3/room	1/room	1/room	If children threatened
Bees (bumble)	1/room	3/room	1/room	1/room	If children threatened
Bees (carpenter)	1/room	3/room	1/room	1/room	If children threatened; 1 carpenter bee/5 linear feet
Cockroaches	1/room	5/room	1/room	1/room	If noticeable or invading
Crickets	3/room	10/room	1/room	2/room	If nuisance
House Flies	3/room	5/room	1/room	1/room	5/trash can; 10/dumpster
Lice (head or body)	<i>Take no action, refer to nurse</i>				
Mice	1/room	1/room	1/room	1/room	Burrows or activity in any student area
Rats	1/room	1/room	1/room	1/room	Any burrows/activity
Silverfish	1/room	2/room	1/room	2/room	N/A
Centipede	1/room	2/room	1/room	2/room	N/A
Spiders (poisonous)	1/room	1/room	1/room	1/room	1/activity area
Spiders (others)	1/room	3/room	1/room	1/room	Only if nuisance
Wasps, Hornets, Yellowjackets	1/room	1/room	1/room	1/room	10/10 minutes at trash; 1 if threatening children

Adapted from: [Maryland Department of Agriculture Pesticide Regulation Section.](#)

["Action Thresholds in School IPM Programs" Supplemental Materials for
Integrated Pest Management - IPM Training Manual. Revised July 2006.](#)

<http://articles.extension.org/pages/20415/school-integrated-pest-management-thresholds>

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For more information about IPM in Tennessee schools and other facilities, or to view past issues of *Pests and Pesticides in Child-serving Facilities*, please visit schoolipm.utk.edu.

NATIONAL IPM INFORMATION

eXtension's Pest Management In and Around Structures: Urban Integrated Pest Management http://www.extension.org/urban_integrated_pest_management

National School IPM
schoolipm.ifas.ufl.edu/

IPM in Schools Texas
<http://schoolipm.tamu.edu/>

IPM Institute of North America
www.ipminstitute.org/

School IPM PMSP—all schools IPM by 2020
http://ipminstitute.org/school_ipm_2020/index.htm

National Pest Management Association IPM
http://www.whatisipm.org/schools_IPM.asp

EPA schools
<http://www2.epa.gov/managing-pests-schools>

For further information about the IPM program at your school or in your county, contact your county Extension Agent or the school IPM Coordinator. For county agent contact information, please visit <https://extension.tennessee.edu/Pages/Office-Locations.aspx>

Precautionary Statement

To protect people and the environment, pesticides should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label.

Disclaimer

This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label always takes precedence over the recommendations found in this publication.

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