

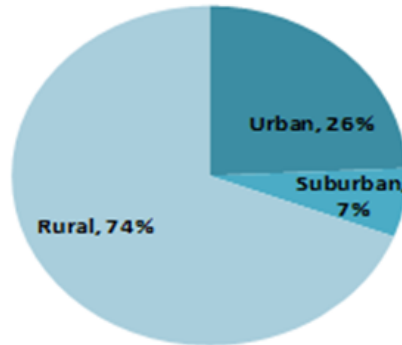


Pests and Pesticides in Child-serving Facilities: An IPM Newsletter

2013 Tennessee School District Pest Management Survey Results

Karen M. Vail

Responses to the 2013 Tennessee School District Pest Management Survey are presented in the table below. Thanks to the 98 school districts' facility directors and other personnel that took time out of their busy day to complete the survey.



School districts defined themselves as rural (74%), urban (26%) and suburban (7%). Seven districts defined themselves as two of these categories.

2013 Question	% Yes	% No	% Don't Know
Does your school district currently use integrated pest management or IPM in your buildings?	74	7	18
Does your school district currently use integrated pest management or IPM on your grounds?	67	7	26
Does your school have a written pest management policy? Examples are available online at schoolipm.utk.edu	31	52	17
Does a person trained in pest management decide that pesticides need to be applied?	100	0	0

Special points of interest:

- > Pest Management Phone Survey Results
- > Pest Spotlight: Yellowjackets
- > EPA Mold Webinar

About 80% of the school systems are using most (>70%) of the IPM practices queried about in the survey.

Based on the first three needed improvements (pesticides still applied on a predetermined schedule regardless of pest presence, baseboards still sprayed on a regular basis and lack of or uncertainty of cockroach baiting), 50% may be a better estimate of the Tennessee schools using IPM.

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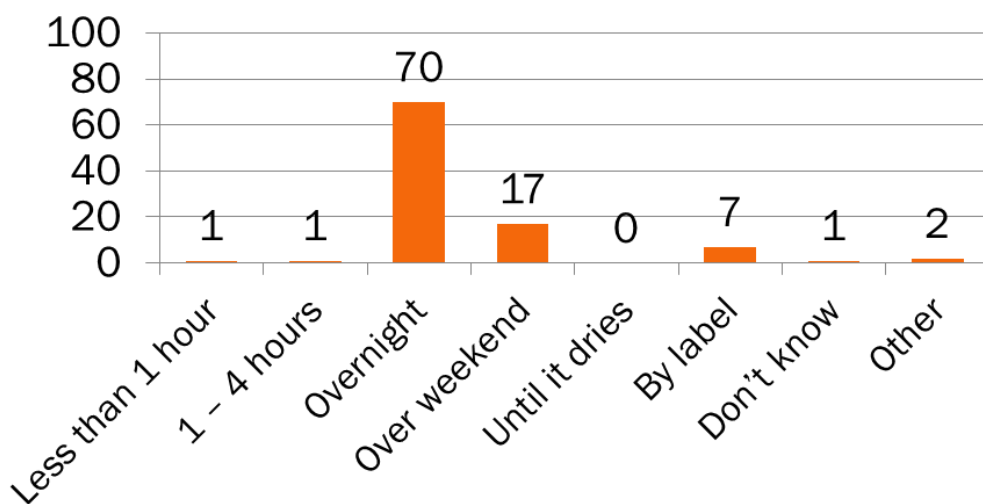
Question	% Yes	% No	% Don't Know
Does a person trained in pest management apply the pesticides?	100	0	0
Are pesticides applied on a predetermined schedule regardless of pest presence?	52	44	4
Are baseboards sprayed on a regular basis?	47	44	9
Do you have a monitoring program that uses glue boards, sticky traps or similar devices?	80	10	10
Do results of school inspections or monitoring programs help determine when and where pesticides should be applied?	82	4	14
Are the exterior doors checked to ensure they are sealed well enough to prevent mice from entering, for example, are the gaps around doors less than $\frac{1}{4}$ inch in diameter?	98	1	1
Are baits used for cockroaches?	46	14	39
Are most pesticides used indoors applied into cracks and crevices?	88	1	11
Is a logbook kept of pest sightings and pest management efforts including the type, amount and location of pesticides applied?	53	16	30
If pesticides are sprayed, are children and adults kept out of the pesticide-treated area for a specific time?	96	3	1
Have school buildings or equipment been sprayed for head lice in the last three years?	20	57	22

We are making progress towards the goal of all schools using IPM by 2015.

Tennessee school pest management surveys conducted in 1997, 2002, 2008, 2011 and 2013(http://schoolipm.utk.edu/success_results.html) show steady progress towards adopting school IPM. In 1997, indoor school IPM adoption was estimated at 12% (74% return) and in 2002, had reached 25% (36% return). In 2008, only 6.7% of school districts completed the survey, but 54% of the schools were using high level IPM. It appeared the rate of IPM adoption was doubling about every 5 years, but the low response rate in 2008 called that data into question. Thus the survey was changed from an online submission to a phone survey, it was reduced and simplified to include 17 questions and was to be completed for the school district and not for each school. The simplified 2011 and 2013 surveys no longer allowed us to collect the detailed data as in the past, but did allow us to discern whether schools were using IPM.

We are almost there!!!! In 2013, about 80% of the school districts are using most (>70%) of the IPM practices queried about in the survey. IPM practices included having a pest management policy, using a person trained in pest management to decide that pesticides needs to be applied, using a person trained in pest management to apply pesticides, using a monitoring system or inspections to help determine when and where pesticides should be applied, pest-proofing, using cockroach baits, applying pesticides in cracks and crevices, using a logbook, keeping occupants out of treated areas and not spraying buildings or equipment for head lice. Most school districts are keeping occupants out of pesticide-treated areas overnight (70%) or for the weekend (17%). Seventy-four percent of responding school districts thought they were using IPM; however, we decided they weren't using IPM if they regularly applied pesticides regardless of pest presence. This dropped the school districts using IPM to 46%.

% Time Kept Out of Pesticide Application



What looks good?

- People trained in pest management are making the decisions that pesticides need to be applied and when and where they should be applied.
- More than 80% of school districts monitor or inspect to help decide when and where pesticides should be applied.
- Almost all school districts check exterior doors to ensure they are sealed well enough (i.e., gaps around doors are less than ¼ inch in diameter) to prevent mice from entering.
- Pesticides are applied indoors to cracks and crevices to target the pest and reduce exposure to occupants in 88% of districts.

What needs improvement?

1. A schedule is still determining when pesticides are applied in 52% of the school districts. We would like to see pest sightings, or results from inspections or monitoring devices as the trigger for pesticide applications. I think this question is a bit ambiguous. Because the pest management professional is present on the same day of each month, the respondents might have interpreted this questions as the pest management person applying pesticides on a predetermined schedule.

2. Also, 47% of respondents are still spraying baseboards regardless of pest presence. Spraying baseboards is often ineffective and not necessary because pests are often hidden in a crack and crevice and not found in an open area such as on a baseboard. We would like to see pest sightings, or results from inspections or monitoring devices that determine where the pest is most active, as the trigger for pesticide applications.

3. Baiting for cockroaches is only performed in 46% of the school districts. This percentage baiting may be higher as 39% of responding school districts were unsure if they had baited for cockroaches. Baiting aids in getting the pesticide back into the cockroach harborage site. Bait is placed in or near a crack and crevice where cockroaches have been found on glueboards or have been sited during an inspection. The cockroach feeds on the bait and either dies in the harborage and is eaten (necrophagy), or its feces containing toxicant is eaten (coprophagy) or its vomit containing the toxicant is eaten (emetophagy). Baiting is a very efficient way to control roaches and has been proven to reduce the cockroach allergen load without other effort.

Based on these first three needed improvements, ~50% may be a better estimate of Tennessee schools using IPM.

4. We've noted a large increase in school districts using a logbook which is crucial to any IPM program. Occupants should have access to information describing pesticide treatments. If pest control services (monitoring and inspections as well as pesticide applications, etc.) are performed on the same day of each month, concerned individuals could inquire if, when, where and what pesticides were applied before entering the school the next day. In 2011, only 35% were using logbooks and in 2013, 53% reported doing so. I assume this increase is due to the logbook deliveries we made to every public school district in the state this past winter.

Accurate record keeping is essential to a successful IPM program. It allows the school to evaluate the results of practicing IPM to determine if pest management objectives have been met. Keeping accurate records leads to better decision making and more efficient procurement. Accurate records of

inspecting, identifying and monitoring can document changes in the site environment (less available food, water or shelter), physical changes (exclusion and repairs), pest population changes (increased or reduced, older or younger pests) or changes in the amount of damage or loss. Each school should keep a complete and accurate logbook of pest control services. Pesticide use records also should be maintained to meet any requirements of the Tennessee Department of Agriculture and the school's administrators. The logbook should contain the following items: Pest Sighting Log, Structural Repair Log, Inspection Forms, Maps & Traps of Facility & Monitoring Station Location, Pesticide Application Records, Time Log, Labels and Material Safety Data Sheets (MSDS), Newsletters and Web Sites, and IPM Policy & Plans or Contract. Logbook examples can be found at schoolipm.utk.edu.

5. We've noted an increase in school districts using a policy statement. In 2011, 19% had a pest management policy and in 2013, this rose to 31%. A policy statement should be written stating the school administration's intent to implement an integrated pest management program. It should briefly specify the expectations of the program, including the incorporation of existing services into an IPM program and the education and involvement of students, staff and pest manager. A model policy statement is provided in APPENDIX I (<https://utextension.tennessee.edu/publications/Documents/pb1603.pdf>).

6. School personnel are still spraying buildings or equipment for head lice in 20% of the responding school districts. We do not recommend spraying the premises for head lice. Head lice don't live away from the human host for very long (< 2 days), and it is illegal for school personnel to apply pesticides in a school unless they are under the direct supervision of someone licensed by the Tennessee Department of Agriculture to apply pesticides. See the February 2011 newsletter (http://schoolipm.utk.edu/documents/newsletters/february_2011.pdf) for a lengthy discussion of this subject.

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Don't spray school premises for head lice, it's not necessary and is illegal if not performed under the direction of a licensed operator!

Karen M. Vail

In the United States, approximately 10 – 12 million people, mostly children, are infested annually with head lice, *Pediculus humanus capitis* DeGeer. The first indication of an infestation is the itching and scratching caused by these bloodsucking insects. Examination of the hair and scalp will usually reveal the white or grayish crawling forms (about the size of a sesame seed) and yellowish-white eggs (nits) attached to the hair shafts close to the scalp.

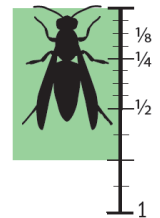


Head louse adult. Photo: University of Florida

Pest Spotlight

Yellowjacket Wasps, *Vespula spp.*

Description: The body is yellow and black. They are $\frac{3}{8}$ to $\frac{5}{8}$ inch long. The abdomen usually is banded with yellow and black. They have a characteristic side-to-side motion when hovering or before they land and are often confused with honeybees.



Life Cycle: Egg, larva, pupa and adult

Where to Look: They nest in cavities in the ground or hollow spaces behind landscaping retaining walls. The irregularly-shaped, paper nests may also be found above ground in structures or in other protected sites. They will scavenge wherever food is found—trash cans, picnic areas, outdoor gatherings and around playground equipment. Entrances to nests are marked by fast-flying workers entering and leaving the nest. They usually are slow to sting, but workers will become very aggressive if you approach the nest.

Management: See action plans at <http://www.extension.org/pages/20998/school-ipm-action-plan-for-yellowjackets>. Log all pest management activities into the Child-Serving Facility IPM Logbook (see schoolipm.utk.edu for example).



Yellowjacket adult. Credit: Stephanie Gil, Louisiana State Arthropod Museum, Department of Entomology, Louisiana State University Agricultural Center

EPA Webinar on Mold

Join U.S. Environmental Protection Agency on **Wednesday, August 7, 2013, from 1 – 2:15 p.m. EDT** for the webinar [Mold and Moisture Control in Schools: Potential Health Effects and Safe Clean-Up Practices](#).

The presence of [mold in schools](#) can be a serious health risk to students and staff because molds are a major source of indoor allergens and can trigger asthma attacks in sensitive individuals. Prompt and effective remediation of moisture problems is essential to minimize potential mold exposures and their potential health effects, and is an important part of a comprehensive [indoor air quality \(IAQ\) management program](#).

Attend this webinar to:

- Learn technical tips to help control moisture intrusion and identify and [prevent mold growth](#) in your school or district.
- Discover effective strategies for quickly responding to moisture problems and learn about proper mold remediation and clean-up practices in schools.
- Understand the connection between effective mold and moisture control, healthy IAQ management, reduced absenteeism, and [improved student performance](#) in students and staff.
- Gain access to tools and resources within EPA's [Framework for Effective School IAQ Management](#) and [Action Kit](#) that can help your school or district effectively manage mold and moisture problems.
- Hear from and have your questions about mold in schools answered by a leading mold expert.

Speaker:

Steven Caulfield, Senior Vice President, Turner Building Science and Design, and President of the Maine Indoor Air Quality Council, Harrison, Maine.
Alyce Swann, Facilities Supervisor, Maine Regional School Unit 21, Kennebunk, Maine.

Facilitator:

Jennifer Lemon, U.S. EPA, Indoor Environments Division.

Don't miss your chance to have your questions answered during the webinar. Send your questions to IAQTfSConnector@cadmusgroup.com by August 6, 2013.

Register Today:

<https://www2.gotomeeting.com/register/478920474>

Please note: This webinar will last approximately 75 minutes. You will need a high-speed Internet connection and a telephone line to interact with speakers and other participants. Call-in information will be provided upon registration.

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**Comments or questions
 on this newsletter?
 Contact kvail@utk.edu**

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 or utyeah.utk.edu

NATIONAL IPM INFORMATION

eXtension's Pest Management In and Around Structures: Urban Integrated Pest Management
<http://www.extension.org/Urban%20Integrated%20Pest%20Management>

National School IPM
schoolipm.ifas.ufl.edu/

IPM in Schools Texas
schoolipm.tamu.edu/resources.htm

IPM Institute of North America
www.ipminstitute.org/

School IPM PMSP—all schools IPM by 2015
http://www.ipminstitute.org/school_ipm_2015.htm

National Pest Management Association IPM
www.whatisipm.org/

EPA schools
www.epa.gov/pesticides/ipm/schoolipm/index.html

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 www.agriculture.utk.edu/personnel/districts_counties/default.asp

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.

Use of trade or brand names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others that may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product. The author(s), the University of Tennessee Institute of Agriculture and University of Tennessee Extension assume no liability resulting from the use of these recommendations.

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