



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

### The 2017 School IPM Survey Results: 55% of School Districts Using Most of the IPM Practices

Karen M. Vail

Once again, an impressive participation rate (67%) was noted for the 17-question phone pest management survey conducted this past March and April. Thanks to the 97 school districts' facility directors that took time out of their busy day to complete the survey and to Pat Barnwell for coming out of retirement to assist in the data collection. Most (76%) schools identified their district as rural, while 16% identified themselves as suburban and 20% were identified as urban. Four school districts identified themselves in more than one setting.

We define IPM during the phone survey as follows: *IPM emphasizes regular inspections, not regular spraying of pesticides, to detect pests. Basic pest survival elements, such as food, water and shelter, are removed and pest access into a building is reduced. Pesticides, if deemed necessary through inspections, target the pest and minimize the risk of exposure to building occupants.*

Participants often incorrectly classify their system as using IPM, so the percentage of schools using IPM in the building and on the grounds is overinflated in Figure 1. For instance, 64% of respondents indicated they used IPM in schools. However, if we remove the school districts that sprayed baseboards on a regular basis the percentage of school districts using IPM drops to 34%.

Rather than base IPM adoption rate on the classification by the school personnel, we choose to use adoption of IPM practices as the IPM indicator. If schools were using 75% or 9 of the 12 IPM practices queried about in the survey, we labeled them as using IPM. Using this definition, 55% of the school districts are using IPM. Plotting adoption by Tennessee Department of Education Region (Figure 2) informs us where to concentrate future IPM demonstrations and educational efforts. Lower IPM adoption rates in rural (46%) than urban (75%) or suburban (73%) school districts (Figure 3) further reinforces the need to conduct demonstrations in rural districts.

### Special Points of Interest

We can easily increase the number of school districts that are using IPM by doing a few simple things: (1) create a policy statement by modifying our online example, (2) stop spraying baseboards as preventive pest control—it's not very effective, (3) bait for cockroaches—it's the preferred method by the world's experts, (4) use a logbook, and (5) stop spraying the interior for head lice.

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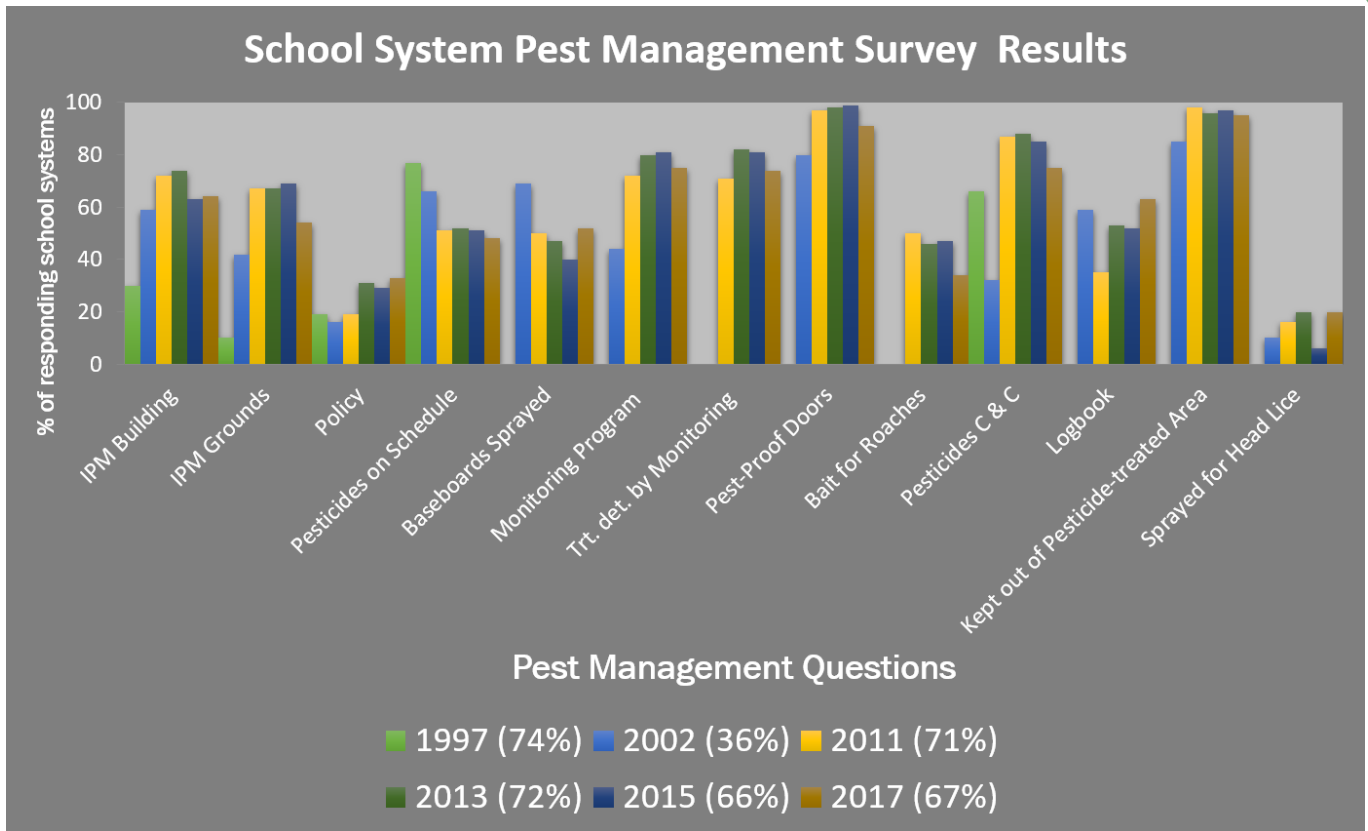


Figure 1. Percentage positive responses from Tennessee school districts for each question asked. The legend indicates the year the survey was conducted with the percentage of school districts responding in parentheses.

### % of School Region Using >75% of IPM Practices

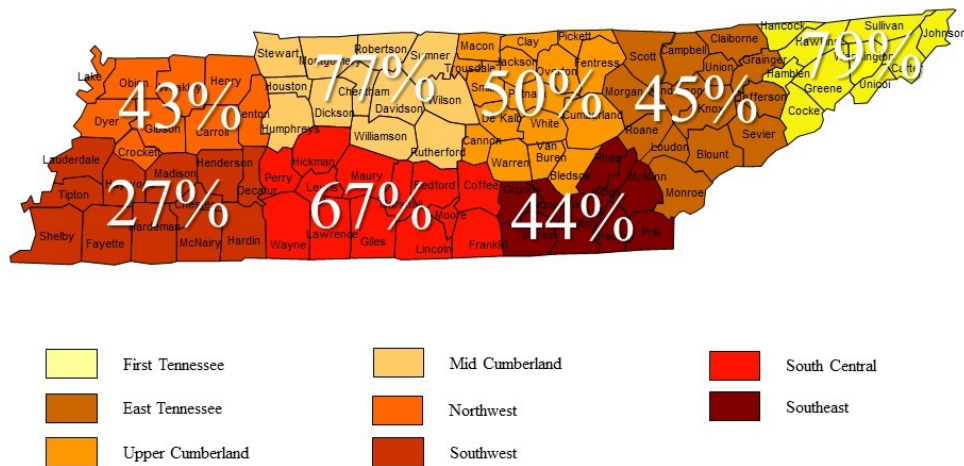


Figure 2. Percentage of school districts using IPM in 2017 per Tennessee Department of Education Region.

IPM practices queried about in the survey included having a pest management policy, using a person trained in pest management to decide that pesticides need to be applied, using a person trained in pest management to apply pesticides, using monitoring devices 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, **not** spraying buildings or equipment for head lice, and **not** spraying baseboards regularly.

#### Areas where greater than 70% of school districts have implemented an IPM practice:

1. The risk of being exposed to pesticides in a Tennessee school appears to be **minimal**. Most schools districts (95%) are keeping occupants out of pesticide-treated areas with 56% of districts allowing overnight and 21% allowing the weekend to pass before occupants have access to the treated areas. Three percent indicated they didn't know if there was a re-entry interval.
2. Pest sightings, or results from inspections or monitoring devices should be the trigger for pesticide applications. Seventy-five percent of the districts are using glue boards to monitor pest populations and a similar percentage use the results of the monitor catches or inspections to trigger pest management action. The overall trend is a decreasing percentage of school districts applying pesticides on a scheduled basis regardless of pest presence (Figure 1).
3. When asked, *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 ¼ inch in diameter?*, ninety-one percent of school districts replied affirmatively! If pests that live on the exterior of the structure are kept out, then less pesticide is needed inside the structure and occupants are exposed less to pests, their allergens and pesticides.
4. Seventy-five percent of school districts indicated that most pesticides are applied into cracks and crevices for indoor applications. Again, another example of reducing the risk of pesticide exposure to occupants.

% of School Districts Using  $\geq 75\%$  of IPM Practices

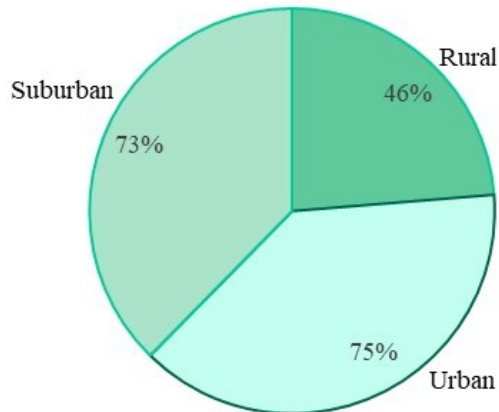


Figure 3. Rural school districts lag behind urban and suburban districts in IPM adoption.

### What needs improvement:

1. Currently, 52% of school districts reported spraying baseboards on a regular basis. Spraying baseboards on a regular basis is often ineffective and not necessary. As indicated above, pest sightings or results from inspections or monitoring devices should be the trigger for pesticide applications. Monitoring devices and inspections also determine where the pest is most active and will direct the location of the pesticide application. In addition, pests are often hidden in a crack and crevice and not found in an open area such as on a baseboard. Spraying baseboards is often a waste of pesticides, increases occupant exposure and is often needlessly performed to soothe administrators.
2. Baiting for cockroaches is only performed in 34% of the school districts. Baiting may be occurring more frequently because 41% of responding school districts were unsure if bait had been used for roaches. If you're a pest management professional and using bait in a school, please let them know. 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 sighted 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.** If your school is experiencing problems with asthma, you should be baiting. Ensure the pest management professional alternates or rotates the type of cockroach bait used to prevent insecticidal or behavioral resistance from occurring.
3. Sixty-three percent of school districts are using a logbook which is crucial to any IPM program. **This is the highest percentage recorded to date and was a 28 percentage point increase from 2011.** We are making progress on this variable, but more is needed. 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. 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 and Listing of Facility & Monitoring Station Locations, Pesticide Application Records, Time Log, Labels and Material Safety Data Sheets (MSDS), Newsletters and Web Sites, and IPM Policy & Plans or Contract. In the winter of 2012/13 we delivered enough logbooks to each school district in the state so they could distribute them to every school in their district. If you've misplaced yours, the entire logbook, minus the binder, can be downloaded at [schoolipm.utk.edu](http://schoolipm.utk.edu).

4. Only 33% of school districts have developed a policy statement. While this is a 14 percentage point increase from 2011, it is still unsatisfactory. 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 of *Suggested Guidelines for Managing Pests in Tennessee's Schools: Adopting Integrated Pest Management* (<https://utextension.tennessee.edu/publications/Documents/pb1603.pdf>).
5. School personnel are still spraying buildings or equipment for head lice in 20% of the responding school districts, the same percentage as in 2013 and 14 point increase from 2015. Do not spray 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. After recently finding lice spray in classrooms, we produced an article in the April 2017 school IPM newsletter (<http://schoolipm.utk.edu/documents/newsletters/April2017.pdf>) with a lengthy discussion on this subject.

We can easily increase the number of school districts that are using IPM by doing just a few simple things: (1) create a policy statement by modifying our online example, (2) stop spraying baseboards as preventive pest control—it's not very effective, (3) bait for cockroaches—it's the preferred method by the world's experts, (4) use the logbook and (5) stop applying insecticides to the school's interior for head lice! If you need any help with these items, please contact us at [kvail@utk.edu](mailto:kvail@utk.edu) or (865)974-7138.

Modified from <http://schoolipm.utk.edu/documents/newsletters/July2015.pdf>



## Updated List of School IPM-Trained PMPs

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On June 22, 2017, UT Extension conducted a Hands-On School IPM Training Day at Tullahoma High School. Thirty-two Cook's Pest Control employees attended the training and passed the exam. If you're looking for a company with school IPM-trained technicians to invite to your next open bid, see our updated list at <http://schoolipm.utk.edu/documents/TechnicianspassedschoolIPMtestJune222017final.pdf>



## Springtails Abound

Karen M. Vail

Springtails are small insects (~ 1mm) that are common when the environment is moist. Recent submissions to our lab prompted us to post to our Facebook page (<http://tinyurl.com/UrbanIPMTN>) and to remind you about management options at <http://schoolipm.utk.edu/documents/newsletters/May2015.pdf>



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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](http://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](http://www.extension.org/urban_integrated_pest_management)

National School IPM  
[schoolipm.ifas.ufl.edu/](http://schoolipm.ifas.ufl.edu)

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

IPM Institute of North America  
[www.ipminstitute.org/](http://www.ipminstitute.org/)

School IPM PMSP—all schools IPM by 2020 <https://ipminstitute.org/projects/school-ipm-2020/>

National Pest Management Association IPM  
[www.whatisipm.org/](http://www.whatisipm.org/)

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.

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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