



Special Points of Interest

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

What's the Nurse's Role in a School Integrated Pest Management Program?

By Karen M. Vail, Professor and Extension Urban Entomologist

Integrated Pest Management (IPM) aims to reduce and balance risks from pests and pesticides and is a process that extends beyond the application of pesticides to include reduction of food, water, shelter, and in-building access used by pests. In an IPM program, pest populations are prevented; pesticides are used only when needed; the least hazardous pesticide that effectively manages the targeted pests is selected; and pesticides are directed to areas not accessible to children, staff, parents or other building occupants. While IPM is not specifically mentioned in the NASN, National Association of School Nurses' position statement [Environmental Health in the School Setting: The Role of the School Nurse](#), the potential health effects of pests and their management are. NASN's website does list the Environmental Protection Agency's [Health Benefits of Integrated Pest Management in Schools](#) as a resource for school nurses.

When pest managers think of the role of nurses in a pest management program, head lice is often the first pest that comes to mind. In this situation, the school nurse is often the contact between the school and the parent or guardian and ensures the parent is informed about lice remediation using methods recommended by the Centers for Disease Control and Prevention (CDC) or other science-based organizations. Unfortunately, Tennessee school districts often follow outdated policies on lice management regardless of their nurses' knowledge. We would like to remind nurses about the lice-related problems we have noticed in Tennessee schools. In the last [Tennessee school integrated pest management survey](#) (2017), 20% of the school districts indicated they used insecticidal premise sprays in an attempt to manage head lice. This is an unnecessary step as most head lice do not survive off the host for very long and pesticide applications by untrained teachers potentially and unnecessarily exposes children to pesticides. In addition, we have found cans of lice or crawling insect spray in unlocked floor cabinets in kindergarten or pre-K classes. [This is wrong on many levels as I've expounded on in the past](#). We would ask that the nurses add another action to their lice management checklist and that is to check the K and pre-K classrooms for insecticidal sprays and to remove them.

In addition to head lice, many other pests are considered health risks in and around schools and include rodents; bats; [bed bugs](#); bees, [fire ants](#), snakes, scorpions, spiders, yellowjackets, wasps and other venomous pests; cockroaches; [mosquitoes](#); and ticks; as well as others. Many of these pests, such as rodents, bats, mosquitoes and ticks have the potential to spread disease-causing organisms. Others, such as rodents and

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cockroaches, may produce allergens and some pests may trigger allergic responses due to injection of their venom. Bed bugs are listed here because they cause stress and related health issues, but are not known to biologically transmit disease-causing organisms to humans. It still amazes me that bed bugs cause so much more hysteria than cockroaches and rodents, but that the latter two are much more likely to trigger severe allergic/asthmatic responses. High asthma incidences in school systems should cause nurses to evaluate the cockroach and rodent pest incidences, ensure the school has a valid management and monitoring program and support the recommendations for structural modifications to remove pest conducive conditions.

While we don't suggest that the nurses be involved in the actual killing of these pests, we do suggest that they review the management processes to ensure the students and staff are well protected and that they become familiar with pest conducive conditions so they can recommend removal. Should a mosquito-transmitted disease outbreak occur, nurses would be the obvious choice to securely store repellents and apply them to students prior to the students venturing outside. Nurses could also suggest that sporting events occur when the main vector was less active. When students are regularly bringing ticks into the classrooms, nurses can check that vegetation is trimmed away from playgrounds and sidewalks. Baiting German cockroaches has been documented to reduce their allergen load, so it would be important to ensure your school system is baiting. Many other examples can be found in the Northeast IPM Center's links found near the end of this article.

Nurses are also becoming the school expert who can identify bed bugs and are often the contact with parents on this subject too. We have been working closely with schools and multi-family housing on the bed bug issue.

If you need assistance on this subject, please see our web pages at http://schoolipm.utk.edu/success_results.html and bedbugs.utk.edu or contact us at kvail@utk.edu.



Discussions at the 2018 Tennessee School IPM Advisory Board Meeting emphasize the critical role of school nurses in an IPM program.

The school nurse is aware of student health issues and is often one of the first school members to be informed of asthma and allergy incidences. The Environmental Protection Agency's *Indoor Air Quality Tools for Schools* program suggests that nurses are the first to observe health trends in the school and are a part of the early warning system of potential structural issues. Nurses should accompany the facility's director when conducting school inspections whether it's for the IAQ or for the [pest management inspection](#) to emphasize potential health risks or pest conducive conditions encountered. Certainly, proactively searching for

insecticides in classrooms could easily be emphasized during these inspections.

For IPM programs to succeed, the IPM coordinator, the facility director and the school nurse need to work closely together. The nurse needs to underscore the need for structural or grounds remediation and its impact on the occupants' health outcomes. The director of schools will take the action of removing pest conducive conditions more seriously if the facility director and nurse both approach him/her together about the problem.

In the past, we've focused much of our IPM training on the facility director or pest management professional. It became readily apparent during the 2018 Tennessee School IPM Advisory Board Meeting that nurses are an integral part of the IPM team but hadn't received much attention from our program. Nurses often lack the training to identify pests and to understand the pest's biology. So in 2017, the Northeast IPM Center released the following publications to guide nurses in schools:

[Rodents](#)

[Head Lice](#)

[Ticks](#)

[Mosquitoes](#)

[Stinging Insects](#)

In addition, the [Pest Defense for Healthy Schools](#) program provides video training that explains the roles of nurses in IPM programs. They also provide a lengthy list of links to common pest related problems in schools and questions and answers about pesticides. [IPM in Schools for Nursing Staff](#) PowerPoint training modules are available through extension.org.

While nurses don't typically think of pest management as part of their responsibilities, they do deeply care about their students' and other school occupants' health. We are willing to expand our IPM training efforts to the school nursing community. Please contact us as you begin to plan your regional or statewide meetings to see where we can fit into your meeting programs.

What to Do When Students Repeatedly Bring Bed Bugs to Schools?

By Karen M. Vail, Professor and Extension Urban Entomologist

Because I see school personnel struggling with how to address students who repeatedly introduce bed bugs to schools, below you'll find an excerpted portion of [eXtension's IPM Action Plan for Bed Bugs](https://articles.extension.org/pages/61823/ipm-action-plan-for-bed-bugs), <https://articles.extension.org/pages/61823/ipm-action-plan-for-bed-bugs> to help you develop your own policies.

The entire article can be found at the above link. See [Bed Bugs: What Schools Need to Know](#) for additional information on managing bed bugs in this environment.

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Further Intervention

In the unusual instance where a child repeatedly reports to school showing evidence of bed bugs despite previous notification, education and counseling with parents, further investigation is needed. Repeated bed bug presence may be due to the following:

- Inability of parents to recognize the scope of an infestation at home
- Failure to effectively treat a recognized infestation, including inability to afford pest control services
- Failure to adhere to recommended clothing and school item sanitation
- There are other sources of bed bugs

If any of the above issues are thought to be the cause, targeted intervention may be warranted:



Download the School IPM Teaching Kit for Nursing Staff at <https://articles.extension.org/pages/73956/ipm-in-schools-for-nursing-staff>

- Increased vigilance and monitoring of suspected bed bug introduction points into the school such as lockers, buses, common areas or other areas where students routinely congregate.
- Monitoring may result in treatment of school facilities and property if an infestation is found in the school or on buses.

Investigative work into the home life may be required to figure out where repeated bed bug findings are originating.

- Lack of financial resources to secure pest control.
- An inattentive landlord may be refusing to properly manage pests. There are laws in most states that give tenants recourse in this situation^[1].
- It is also possible that the parent/guardian is failing to properly prepare the property for treatment (generally this involves cleaning and organizing).

If a parent claims to be diligently dealing with an infestation and the student continues to come to school with bed bugs, there may be an alternative source or reason that the parents haven't been successful. It is important to identify behaviors that contributed to the infestation in the first place.

- Re-infestation from outside of the home (adjoining residences, places a student sleeps or visits, visitors to the home, or other family members)
- Where the child spends time after school, before school or with other family members.
- Cars and other modes of transportation can become infested.
- Non-vigilance or lack of concern on the part of the parent.

Rare/Extreme Cases

In rare or extreme cases, a school may have to confront a situation where a parent or caregiver is incapable or unwilling to remedy a bed bug infestation in the home. These cases are difficult because a school must weigh several important factors:

- Providing a healthy, pest-free environment for students to learn is the responsibility of the school.
- Providing a healthy, pest-free environment for the staff is also a responsibility of the school administrators.
- Providing a safe and healthy living environment is a responsibility of the parent and NOT the school.
- Repeated bed bug introductions by a student constitutes a risk to other students and staff. While bed bugs do not transmit disease, they are a health issue because they are blood-feeding, human parasites and the psychological impact reduces quality of life and creates a distracting learning environment. Once established in a home they can cause physical and psychological symptoms, and present a significant economic investment to eradicate. These facts are also true at the school level. Repeated inspections and potential treatment by pest management professionals, anxiety, frustration and lost instructional time on the part of staff and administrative efforts constitute a serious cost both economically and in educational efficiency.

Bed bug infestations are not only an individual family and school concern, but are of concern for the entire community. Individuals and institutions have their respective responsibilities, but it is incumbent on the community itself to attempt to help its members, particularly those less fortunate, to address an infestation.

While the policy recommendations outlined above do not generally support exclusion of a student for bed bugs, in some cases this option may be needed to be considered for resolution of the situation. Exclusion alone will not solve a bed bug infestation, but may serve to prompt stronger or more effective measures at home.

Other options in rare or extreme cases may include:

- Notifying local health/code enforcement- in the case of landlord or neighbor negligence, many families simply do not know the recourses available to them or are concerned about retaliation by the landlord or neighbor.
- Notifying Child Protective Services in instances of suspected neglect.
- Notifying local truancy offices if the child, due to repeated infestation, is missing an excessive amount of school.

Decisions to act through Children’s Protective Services or local truancy or prosecutor’s offices should be a last resort. Every effort should be made to assist the family with control of bed bugs before taking this action.

Further information on bed bug prevention and response procedures can be found at this Extension site [\[2\]](#)

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2018 All Bugs Good and Bad Webinar Series

In case you missed any of the All Bugs Good and Bad Webinars this year, here are links to all of the recordings.

[Feral Hogs, Ecology, and Control](#)

[Misidentified Pests in the Landscape](#)

[Argentine Ants and Others](#)

[Everything You Must Know About Fleas](#)

[Attracting Pollinators to Our Yards](#)

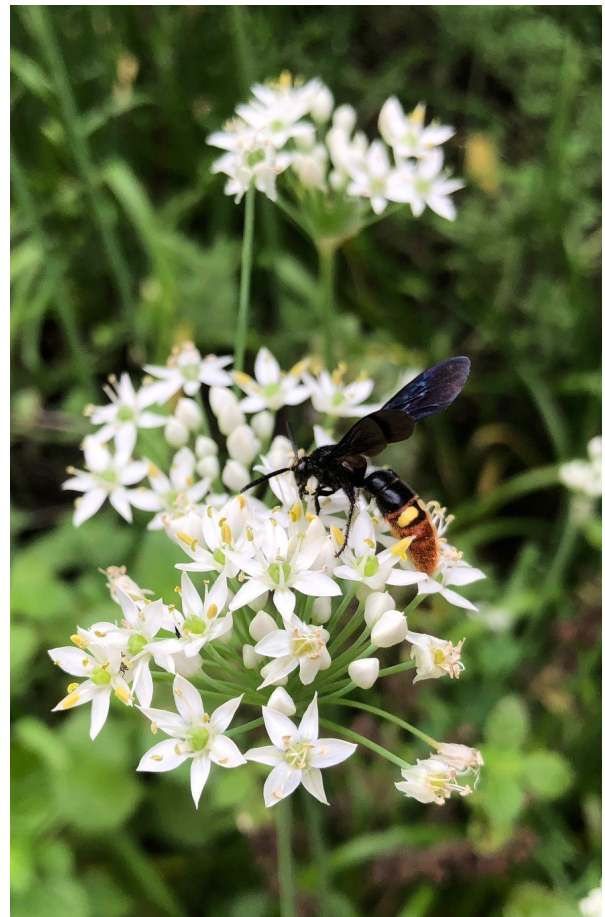
[Bees, Wasps, and Hornets, Oh My!](#)

[Winterizing Your Home to Keep Out Pests](#)

[Structural Misidentified Pests](#)

[Lice, Scabies, and Mites](#)

[Pantry Pests](#)



Scolia dubia on garlic chives, *Allium tuberosum*. *S. dubia*, also called the blue-winged wasp, is a parasitoid of Japanese beetle and June beetle larvae. Photo taken September 3, 2018.

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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 <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

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 <https://ipminstitute.org/projects/school-ipm-2020/>

National Pest Management Association IPM
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.

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