



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

Baiting for Cockroaches in Tennessee's Schools?

Karen M. Vail, Professor and Extension Urban Entomologist

As I was preparing for this newsletter, I asked Pat Barnwell the subject I should emphasize based on the results of the school pest management phone survey she had recently conducted. Without hesitation, she said cockroach baiting. It has always perplexed me why the survey results indicate a lower usage of cockroach baiting than I expect. As I speak at meetings across the state and casually ask attending pest management professionals (PMPs) if they use cockroach baits, most of them raise their hands to indicate they do. So why the discrepancy? While we haven't analyzed the 2019 survey data yet, in 2017, 34% of the school districts responded they were baiting for cockroaches, but 41% of



Place glue boards at the intersection of two surfaces and near water, warmth and food.

respondents were unsure if they used baits. In 2015, we saw similar results; 47% of the school districts were baiting, while 39% were unsure. It's possible the facilities directors are unaware that PMPs use cockroach baits in their schools. This article serves as a reminder to ask your pest management professional if they use cockroach baits. If you're a PMP using cockroach baits in schools, please inform the facilities director. Let's make the next phone survey a more accurate reflection of the pest management procedures taking place in Tennessee's schools.

So why the concern about cockroach baiting? German cockroaches are considered pests for several reasons. They are a nuisance and disturb the learning environment when we react to their presence. More importantly, cockroaches are public health pests. Cockroaches can move food-borne pathogens, and their cast skins and feces are allergens and some of the most significant triggers of asthma attacks. **So, the**

most critical reason to bait for cockroaches? Baiting alone has proven to reduce the allergen load without using other control techniques.

Special Points of Interest

Contact
Jennifer Chandler
(jchand11@utk.edu) to register for the **Free, 7-CEU Hands-on School IPM Technician Training to be held June 26 at Eaton Elementary and June 27 at Thompson's Station Elementary.**

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Baiting does require some skill. Baits should be placed close to cockroach harborages to increase discovery. Find harborages through visual inspections and glue boards. Place glue boards at the intersection of two surfaces, under the sink against the wall, on the back of the cabinet, on the floor against the wall, behind the refrigerator against the housing or wall, etc. and near food, water and warmth. The pest management professional gleens much information from this sticky trap. She determines the stages of cockroaches present. Young instars indicate the board is close to harborage. Cockroaches only on one side of the board show the harborage is on that side. A glue board full of cockroaches means someone has been asleep on the job. Rarely do we find heavy German cockroach infestations in schools. I'm not saying it doesn't happen, but the



A heavily infested glue board from underneath a refrigerator. The presence of first instar nymphs indicates harborage is close by.



Gel bait should be placed in cracks and crevices near cockroach harborage. It is not meant to be visible artwork.

school kitchen staff is usually on top of things and will report roaches at the first sighting.

Contamination of baits can reduce consumption. Insecticidal sprays can contaminate baits so don't apply them in the same areas, or don't spray period when using baits. Don't put the bait where it will be mopped or ruined with cleaning products.

The amount of bait to use at a given spot seems to be a hot topic of discussion. Labels indicate bait should be placed in an area the size of a dime, but others suggest that more extensive bait placements are needed when populations are exceedingly high. If you repeatedly find bait left over from previous baitings, scrape it off and consider the problem. Are you placing the bait too far from cockroach activity or are you putting too much in a spot?

We don't use baits in every scenario. Gel baits can melt or run if placed where it's too hot, and we don't put them on food preparation surfaces to prevent food contamination. Occasionally, we may apply nonrepellent insecticidal dust to a void. German female cockroaches carry their egg case up until they drop it the day before hatch. Unlike human females that consume greater quantities of food while pregnant, the German cockroach does not eat when carrying an egg cases. Thus, in some circumstances, we may not rely solely on baits, but may add an insect growth regulator to increase consumption of food, in this case the bait, by females.

School IPM Roles: The Pest Management Professional

To follow up on recommendations of the School IPM Advisory Board, we are including the role of the Pest Management Professional in this issue. If your PMP doesn't provide these services, you should suggest that they attend the hands-on training described on the next few pages. What follows immediately below has been excerpted from UT Extension PB1846, *A Technician's Guide to Managing Pests in Schools*, which is a supplementary manual to the category 7 certification study material. Anyone applying pesticides in a Tennessee school is required to be certified, that is they must pass the Tennessee Department of Agriculture's category 7 exam, and work under the supervision of a licensed operator.



A PMP discussing a pest management issue with the facilities director.

Pest Management Professionals

The PMP inspects, identifies, records, communicates, educates, recommends, and decides on pest management tactics. He or she must be sensitive to the health and well-being of students and staff. The PMP should have a thorough understanding of the goals and objectives of the IPM program, the pest management contract (if services are contracted), and the facility's IPM policy and its implications.

A PMP who practices IPM plays a much more active and interactive role than a conventional PMP. He or she spends more time inspecting the school and communicating with school workers than applying pesticides. In addition, he or she recommends and applies the appropriate pest management methods based on knowledge of the site and information about specific pests and their biology.

In an IPM program, the PMP should:

- Be certified in category 7 to conduct pest management and work under a licensed operator.
- Develop action plans for pests commonly encountered in school systems and educate the IPM coordinator on non-chemical strategies such as habitat manipulation (sanitation and exclusion) that the school system can implement to aid in pest prevention and suppression. See Appendix II for examples of action plans for managing various pests.
- Regularly inspect the school to identify conditions, procedures, and practices that encourage pests. This information is then reported to the IPM coordinator with recommendations for changes that can support the pest management effort.
- Monitor the site to identify pests and determine the level of pest presence.
- Provide written pest management recommendations to the facility's IPM coordinator and take pest management actions to achieve pest management objectives. If a pesticide application is deemed necessary, the product and method of application selected should minimize risk to occupants.
- Keep accurate records of any control actions taken. Records for pesticides applied should include the information required to complete the Pesticide Application Records form in Appendix I or a service ticket if it contains the same information. Monitor the site subsequently to determine if the actions taken are successful.
- Routinely check the facility's IPM log(s) for new entries of pest sightings and requests for pest management. Follow up to determine if the school or child care facility administration has implemented the recommendations for structural modifications or behavioral changes that are needed to discourage pests from entering or establishing.
- Provide periodic written or oral reports showing progress in achieving IPM program objectives.

Hands-on School IPM Technician Training

Earn a Certificate for School IPM Training

Why should I attend?

- 7 CEUs of free training!
- Add to your pest control credentials and win the bid
- Improve pest management, indoor air quality and energy efficiency in Tennessee's schools

Who should attend?

- Category 7 certified pest control technicians servicing or intending to service schools

June 26, 2019
Eaton Elementary
423 Hickory Creek Rd,
Lenoir City, TN 37771

June 27, 2019
Thompson's Station Elementary
2640 Clayton Arnold Road,
Thompson's Station, TN 37179

Read PB1846 *A Technician's Guide to Managing Pests in Schools: Pesticide Applicator Training Manual Certification Category 7 Supplement* before the training. PB1846 can be purchased at https://secure.touchnet.com/C21610_ustores/web/classic/store_cat.jsp?STOREID=5&CATID=4

Enrollment limited to 25 at each location

Hands-on School IPM Technician Training

Presenters:

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Provided by UT E&PP, with current or previous support from Tennessee Dept. of Ag, Region IV US Environmental Protection Agency and USDA, NIFA, CPPM, EIP

Agenda

- 9:00 – 10:00 What is school IPM and how to implement a program (logbook) (Vail)
- 10:00 – 11:30 The top 6 pests in schools (cockroaches, rodents, ants, head lice, spiders and wasps) and their management (Chandler)
- 11:30 – 12:30 Lunch on your own
- 12:30 – 1:00 Pest conducive conditions and placing monitors (hands-on activity) (Vail)
- 1:00 – 3:30 Inspection of the premises (interior and exterior, 500 potential points) (Chandler & Vail)
- 3:30 – 4:00 Discussion of inspection findings and recording results in the logbook (Vail & Chandler)
- 4:00 – 5:00 Exam. Passing grade of 70% results in certificate of training; names and company posted to our website

Registration. Submit by Wednesday, June 20 to Jennifer Chandler, jchand11@utk.edu . The first 25 registrations received for technicians servicing schools will be eligible to attend. Others will be referred to future trainings in other Tennessee locations.

Name: _____

TDA Certification number: _____

Company Name: _____

Address: _____

Email: _____

Phone: _____

School systems you service: _____

Areas your branch services: _____

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Comments or questions
 on this newsletter?

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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.

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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