



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

Feedback for the TN School IPM Program

Karen M. Vail

Following my presentation at the Tennessee School Plant Management Association on June 25th, 2013, Pat Livingston of the Environmental Protection Agency (EPA) Region 4 asked the audience about feedback regarding the Tennessee school IPM program. Here are the paraphrased comments that I recall (including those conversations that occurred after the presentation) and our responses.

Comments	Responses
It's difficult to have the program at the school level and the district level. Things don't get reported up the chain. Who decides whom gets assigned which tasks?	For our demonstrations, we allow the school district to assign the district wide IPM coordinator to oversee the program on a district level, and we also ask that they assign a local school IPM coordinator as well as a logbook overseer. The district wide coordinator is often the facilities manager and the school logbook overseer is usually a support person in the front office where the book is kept. The school IPM coordinator has varied and some of the most successful have been the lead or dedicated custodial staff. Sometimes the principal serves in this capacity to prevent adding extra duties to his/her support staff. All staff must be informed of their responsibilities and the reason why their input is needed for the program to succeed.
Now that we are using pest sighting logs, teachers are reporting every pest found in the room. This has created more problems for us.	This means that the teachers are buying into the program, which is a good thing. Now, you can explain the use of thresholds as part of the IPM program, i.e., that one ant in a classroom does not trigger an action. Sounds like your school teachers are ready to have an IPM session as part of their in-service trainings. Let us know if you need a PowerPoint presentation or if we can assist in any way.

Special points of interest:

> IPM Program Questions

> Pest Spotlight: Millipedes

It's the law (TCA 62-21-124), to apply pesticides in a school, a person needs to be under the direct supervision of a licensed operator. I don't think teachers intentionally break the law, they probably aren't aware that only licensed persons are allowed to apply pesticides in schools, so educate them. Explain that we want to keep pesticides in the hands of trained individuals that will be more successful with an application.

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Comments	Responses
We'd rather use electronic communications, like SchoolDude, instead of the logbook. Does SchoolDude have a pest management section?	Yes, they do. This link, http://www.tasbo.org/files-public/training/workshops/2011%20IPM%20Conf/6_ipm.pdf , provides a presentation on this very subject. It is very efficient to use SchoolDude and easy to keep track of data this way. Please contact your representative at SchoolDude for more information and let us know if you like the program or not.
Our schools are old and we can't afford to pest-proof all of the structures.	You have to prioritize! Develop your list of needed improvements and address the most critical first. If a school has had a chronic problem with mice, peridomestic cockroaches and occasional invaders, then I'd address pest-proofing in that school first. You don't need to make all of the corrections at the one time, but have a list that can be addressed when funds and time are available.
We did not receive our logbooks.	Please check with your school system's superintendent regarding the locations of the logbooks that we delivered November 2012 through January 2013. If they aren't aware of the logbooks, please contact us (kvail@utk.edu), and we'll see if we can remember where or with whom we left them.
We only have one person licensed to apply pesticides for our school system. What do we do if this person is unavailable and pesticides need to be applied?	To apply pesticides in a school, a person needs to be under the direct supervision of a licensed operator (TCA 62-21-124). Relying on one person for pest management needs for an entire school district is very risky. At the very least, I would have another school person trained and certified to apply pesticides. As long as they could communicate through normal means with the licensed person they could apply pesticides. However, accidents or misapplications are likely to occur when someone inexperienced applies pesticides. I suggest having someone with a license as back up. You could have an agreement in place with a local pest management professional that would allow them to provide and charge for pest management services in case of emergency.
How do we stop teachers from bringing pesticides to school and using them there?	I don't think teachers intentionally break the law; they probably aren't aware that only licensed persons are allowed to apply pesticides in schools, so educate them. Explain that we want to keep pesticides in the hands of trained individuals that will be more successful with an application. If they continue to bring pesticides, then I would inform the principal or other supervisor of the issue.

Moisture-loving Millipedes

By Karen Vail

Millipedes or “thousand-leggers” are worm-like, cylindrical animals with many body segments. Most of their body segments bear two pairs of legs, unlike centipedes which have only one pair of legs per body segment. Millipedes will coil up tightly when disturbed and some species secrete a foul-smelling fluid to protect themselves. Female millipedes can lay from 20 to 300 eggs singularly or in clusters in the soil. The eggs hatch in a few weeks, and the young molt seven to eight times before maturing to adults. Millipedes feed on decaying vegetable matter and are often found under stones, flower pots, heavily mulched shrub or flower beds, rotting logs, boards or similar debris where there is abundant moisture. After rains (or during hot and dry weather or prior to cold weather), large numbers of millipedes may migrate into buildings. They can climb foundation walls and enter schools through any small opening. These pests are generally more troublesome in wooded or newly developed areas where decaying vegetation provides excellent food and breeding conditions.



Coiled millipede. (Credit: UT E&PP Vail)

Management

Reducing Moisture and Removing Debris - A large indoor population usually indicates large numbers of millipedes surrounding the structure. The most effective, long-term measure for reducing entry of millipedes and many other occasional invaders is to reduce moisture and hiding places near the foundation and to pest-proof the structure. One study reported reducing millipede invasions into a structure by 93 percent using nonchemical procedures. Several techniques were used to reduce moisture levels in the lawn and areas surrounding the structure:

- lawns were dethatched,
- lawns were closely mowed and edged to allow them to dry more quickly,
- debris and mulch were pulled away from the structure to reduce hiding places, and
- grass was watered early in the morning to allow it to dry out later in the day.

There are other ways to reduce moisture and debris around structures.

- Move leaves, grass clippings and compost piles away from the structure because they provide food and habitat.
- Boards and rocks provide protection and moisture and should be moved away too.
- Prune tree limbs to increase air movement and sunlight penetration which dries their habitat.
- Make sure water drains away from the foundation and that downspouts and gutters are free of debris.
- Repair water spigots and prevent water from accumulating under drip lines from air conditioning units.
- Reduce moisture in crawl spaces by adequately ventilating, and using polyethylene soil covers, dehumidifiers, drainage systems, sump pumps, etc.

Pest-Proofing

- Seal cracks and openings in foundation walls, doors and windows, especially basement windows.
- Install door sweeps on exterior entry doors, and apply caulk along the bottom outside edge and sides of door thresholds.
- Seal around pipe and utility penetrations into the structure.
- Other pest-proofing methods can be found in PB1303, *Managing Pests Around the Home* (<https://utextension.tennessee.edu/publications/Documents/pb1303.pdf>)



Inside - Pest Removal

Remove individuals found indoors with a vacuum, or broom and dust pan. As with other pests requiring high moisture, millipedes should die after being indoors for several days.

Door sweeps can help keep millipedes outdoors. (Credit: NCSU Waldvogel)

Outside - Pesticide Applications May Reduce Indoor Invasions

Pesticides should not be relied upon for primary control of millipedes, but rather used as a supplement to pest-proofing and habitat manipulation. Pesticides may be applied to the perimeter of the structure and around potential entry points such as doors, windows, vents, pipe and utility penetrations, but after heavy rains one has to wonder how much of the insecticide is left in place. After a pesticide application, millipedes may still manage to make their way inside the building and die where students and teachers can see them.

Modified from:

- Oi, F. and A. Appel. 1998. ANR-1075 IPM Tactics for Millipede Control. Auburn University, Cooperative Extension Service.
- Vail, K.M., G. Burgess, R. Gerhardt and C. Harper [eds.]. 2001. PB 1673 General Pest and Rodent Control Pesticide Applicator Licensing Manual (GRC). pp. 130. The University of Tennessee Extension <http://psep.utk.edu/secondlevel/materials.htm>
- Vail, K. 2007. Millipedes - Those Little Brown "Worms". UT E&PP "What's Happening" Newsletter EPP Info #60, 8 June 2007. <http://eppserver.ag.utk.edu/Whats/wh2007/Issue-8-2007.pdf>
- Waldvogel, M. 2004. Controlling Millipedes in and Around Homes. Insect Note - ENT/rsc-18. North Carolina Cooperative Extension Service.
- Vail, K. 2010. PB1690 Insect and Plant Disease Control Manual: Household and Structural Pests. <http://eppserver.ag.utk.edu/redbook/sections/structural.htm>

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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.

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