



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

### *Enjoy Edible Insects at the Tennessee School Plant Management Association (TSPMA) Annual Conference and Trade Fair, June 1-4, 2010*



www.teachersource.com

Music Road Hotel, 303 Henderson Chapel Road Pigeon Forge, Tennessee 37863

Please attend Dr. Karen Vail's session on school integrated pest management from 4:05—4:45 on June 1. Edible insects will be distributed throughout the session for correctly answered questions.

More information on the conference can be found at : <http://www.tspma.com/tspma-annual-conference-and-trade-fair-june-1-4-2010>

### House Mouse Management

During our winter 2010 inspections of the three TN IPM demonstration schools, house mice were the most common pest listed in the log book. In some cases, we assume this was due to mice entering large gaps between and under exterior doors, often near the cafeteria or other food handling areas. Listed below is a description of the house mouse and its control.

The house mouse is the most common rodent infesting schools today. Though not native to North America, having arrived with early settlers from Europe and elsewhere, the house mouse has adapted brilliantly to life with humans. They invade and contaminate our dwellings, our places of work, and even cause significant economic damage to food stores and crops in agricultural areas.

The adorable house mouse is 5 to 8 inches long and light brown, grey or sometimes black with a lighter belly. It is equipped with a naked tail and ears larger than his cousin, the deer mouse.



House mouse. Credit: NPWRC

The deer mouse (a.k.a. "white-footed mouse") has a furry tail, white feet, and a gray to brown body that contrasts sharply with his white belly. Deer mice will invade outbuildings in rural areas and are less common in urban environments. The deer mouse "is the most widely distributed and abundant mammal in North America and currently the primary reservoir host of Hantavirus" (Corrigan, 2001).

Mice may infest schools year round, but as the house mouse cannot hibernate he is more likely to invade structures in the fall. While in search of food and shelter from colder temperatures, mice are drawn to buildings - which initially offer them cover. From there it only takes a hint of warmth or the scent of food from an access point to invite a *permanent* mouse resident.


### Special points of interest:

- > [Tennessee School Plant Management Association Meeting June 1 -4](#)
- > [House Mouse Management](#)
- > [Bed Bugs and Head Lice in Schools—Webcast](#)
- > [Managing Asthma in the School Environment—Webinar](#)

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Modes of entry include open windows and doors, cracks and any small openings around piping, air ducts, roofing, and doors. Any hole  $\frac{1}{4}$ " or larger can accommodate a mouse. That means if you can stick a pencil into a hole this size  a mouse can also get through it!

Like many types of pests, mice are hitchhikers and can be inadvertently brought indoors in stored boxes (especially corrugated cardboard boxes) and palettes. Arts & crafts supplies, Christmas ornaments, blankets and clothes, are all commonly stored materials with mice. They can also access building roofs via overhanging shrubs and trees, and will climb vertical surfaces and wires if need be.

Mice owe their success to being highly adaptable; they base their foraging activity on when humans are least present (allowing them to escape our awareness), they can survive on just about any kind of food so their dietary needs adapt readily, and they can go without water for considerable periods if necessary. This adaptability and secretive nature makes infestations difficult to perceive until numbers are considerable.

Once mice have gained entrance, they can do serious damage by contaminating food and gnawing at materials. Evidence of mice (other than sighting the animal itself) includes damage to food containers, nesting materials, and the small, tapered fecal pellets left in areas where the mouse feeds or is harbored - i.e. **CLUTTERED AREAS!** Every school has their fair share of "clutter bugs", no not insects, but teachers and members of staff who "have too much STUFF" to allow good sanitation standards to be maintained.

Additional evidence of mice includes grease trails and smidge marks along the patrol path of their territory – around wall skirting, entrance holes, etc. Also, mouse urine fluoresces, so the hundreds of micro droplets they lay down each day can be viewed using a black light in an otherwise dark room.

### **Keep mice out of schools and homes by:**

- 1) Repairing or sealing all openings that allow entrance.
- 2) Removing indoor and outdoor debris that could harbor mice such as woodpiles, clutter, and mulch piles.
- 3) Clearing high weeds – since weeds and seeds serve as food and shelter for mice during warm weather.
- 4) Cleaning up food scraps and storing foods appropriately to prevent easy access to food. All pet foods, bird seed and human food should be stored off the floor and in freezer zip lock bags or plastic containers with lids.

## **MOUSE MANAGEMENT**

### **PREVENTION**

Sanitation – keeping floors and shelves free of food debris is critical. The "Breakfast in the Classroom" program does not have to be at odds with IPM. For example, choose foods like bagels over muffins to minimize crumbs. Make sure floors are swept or vacuumed regularly, especially areas under furniture on rollers. Corner cleaning is imperative.

Mouse-proof buildings – school staff should notify maintenance of holes and entryways. Corners, doors, and around piping are common entry points. Remember to look up at ceilings and down low, too!



**Mouse feces in cabinet under sink in an FCS classroom.**



**Areas surrounding pipes need to be sealed to prevent mouse entry.**

## TRAPPING

A trapping program *combined with prevention methods* should be implemented if an infestation is apparent.

When mice become trapped on glue boards, instances have occurred where students were exposed to very upsetting noises and sights as confused faculty or staff try to discover the source of the distress. Mice take a long time to die stuck on traps, so traps are the more humane and effective approach.

We recommend mechanical traps to control light to moderate infestations of mice. Victor traps can be placed along the base of walls and in corners of rooms where mice are suspected. Traps should be set in the evening and collected the following morning prior to the arrival of students.

Careful inspection should be done before ending trapping as multiple infestations are not uncommon.

Mice may breed year-round and a female may have 5 to 10 litters per year.

Excerpted and modified from *Combating the House Mouse* Pest Press Issue 4, 2006 Alabama School Integrated Pest Management,

[http://www.ag.auburn.edu/enpl/schoolipm/documents/2006\\_december-mice.pdf](http://www.ag.auburn.edu/enpl/schoolipm/documents/2006_december-mice.pdf)

### Information sources:

Illinois Department of Public Health, Prevention & Control website: <http://www.idph.state.il.us/envhealth/pchousemouse.thm>

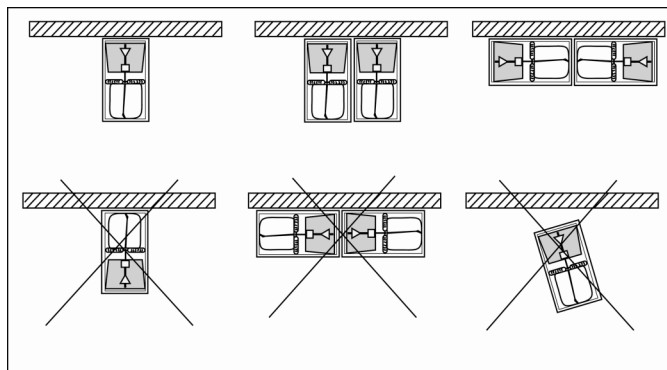
Pest Press – Marc Lame, Indiana University.  
<http://www.mccsc.edu/~jjochim/ipm.html>

“Rodent Control: A Practical Guide for Pest Management Professionals” – Dr. Bobby Corrigan

University of Florida Entomology and Nematology Department’s School IPM website (<http://ifas.ufl.edu>)



The Victor snap trap with expanded trigger.



Snap traps should be placed with the trigger against the wall.

## Other Meetings of Interest

**PASBO Webcast - April 27, 2010 9:30-11:00AM**

**“Don’t let the Bugs Bite – Bed Bugs and Lice Go to School”**

Bed bugs, headlice and schools do not mix! So how can school facilities managers, nurses and principals nip this problem in the bud? How do you communicate effectively with school staff and the local community about the issue? The Pennsylvania Association of School Business Officials (PASBO) is sponsoring an informative webcast on the emerging bed bug problem in schools and an overview of action items that schools can take.

★•Dr. Jody Gangloff-Kaufmann of Cornell University will explain the basics about these annoying creatures and their control.

★•Jeff Bryan, Director of Buildings and Grounds at the Red Lion Area School District will give the school practitioner’s viewpoint.

★•Sarah Pickel from the PA Department of Agriculture will explain the current legal status of pest management in Pennsylvania schools and the resources available to assist schools with compliance.

For more information, including the cost and how to register, please see the link provided below or call PASBO at (717) 540-9551. Pesticide education credits in multiple categories are available.

**DON’T LET BUGS BITE REGISTRATION: (Deadline April 23)**

For more information or to register online, go to <http://www.pasbo.org/workshoplisting.asp> OR fax form to 717-540-1796. Announcement from Zach Bruns on the Integrated Pest Management for Schools Listserv [SCHOOLBUGS-L@LISTS.UFL.EDU]

### Managing Asthma in the School Environment

Thursday, May 13, 2010, at 1:00 pm ET

**[Register today for this free webinar!](#)**

#### Speakers:

\*Robert Geller, M.D., *Director, Emory Southeast Environmental Health Specialty Unit*

\*Leslie Ruben, M.D., *Co-Director, Emory Southeast Environmental Health Specialty Unit*

#### Facilitator:

\*Lani Wheeler, M.D., FAAP, FASHA, *The Cadmus Group, Inc.*

#### Attend this webinar to:

Learn best-practices and cutting edge strategies to manage asthma in the school environment.

Discover the resources offered by a network of experts in the Pediatric Environmental Health Specialty Units, as well as EPA’s Asthma and IAQ Tools for Schools Programs.

Participate in a conversation with your peers and get answers to your questions. Questions should be sent to [IAQTSConnector@cadmusgroup.com](mailto:IAQTSConnector@cadmusgroup.com) by May 6, 2010, to ensure they are discussed during the webinar.

#### Please register in advance by taking the following steps now:

Visit <https://www1.gotomeeting.com/register/316054409> to register.

Complete the contact information on the following page.

An e-mail with the information you need to participate in the presentation will be sent to the e-mail address you have specified.

Please check your spam e-mail filter if the message does not appear in your inbox.

Click on the link provided in the e-mail and join us at least 10 minutes prior to the start of the presentation.

**Please note:** This EPA webinar will be approximately 90 minutes and is free of charge to attendees. You will need a high-speed Internet connection and a telephone line to interact with speakers and other participants.

#### Questions?

If you have any questions about this webinar or the registration process, please contact the *IAQ Tools for Schools* Connector Coordinator at [iaqtsconnector@cadmusgroup.com](mailto:iaqtsconnector@cadmusgroup.com).

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**Comments or questions  
 on this newsletter?  
 Contact [kvail@utk.edu](mailto: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](http://schoolipm.utk.edu) or [utyeah.utk.edu](http://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/](http://schoolipm.ifas.ufl.edu/)

IPM in Schools Texas  
[schoolipm.tamu.edu/resources.htm](http://schoolipm.tamu.edu/resources.htm)

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

School IPM PMSP—all schools IPM by 2015  
[http://www.ipminstitute.org/school\\_ipm\\_2015.htm](http://www.ipminstitute.org/school_ipm_2015.htm)

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

EPA schools  
[www.epa.gov/pesticides/ipm/schoolipm/index.html](http://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](http://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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