



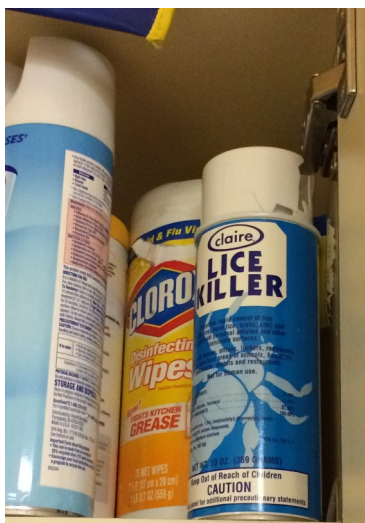
Special Points of Interest

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

Head Lice Spray Can Found in Classroom with Young Children and Other Issues Found During School Inspections

Karen M. Vail

During school inspections over the past year we've come across a few issues that we want to bring to your attention: (1) head lice premise spray found in a kindergarten classroom, (2) cleaners in floor cabinets lacking childproof locks, (3) very strong smelling cleaners used during school hours and (4) abundant brown recluse spiders. We decided to focus on lice sprays, cleaners and brown recluse in this issue.



In the United States, approximately 10 – 12 million people, mostly children, are infested annually with head lice, *Pediculus humanus capitis* DeGeer. The first indication of an infestation is the itching and scratching caused by these bloodsucking insects. Examination of the hair and scalp will usually reveal the white or grayish crawling forms (about the size of a sesame seed) and yellowish-white eggs (nits) attached to the hair shafts close to the scalp.

The most common way head lice are spread is by direct head-to-head (hair-to-hair) contact. Much less often they are spread by sharing clothing or personal possessions onto which lice have crawled or shed hairs with nits may have fallen. There's a very slim chance of being infested by a louse that has fallen onto a carpet or furniture. Head lice just don't survive very long off a host, often less than 1-2 days if they fall off a person and don't have access to food (your blood). Nits won't hatch and usually die within a week if deprived the temperatures and humidity found close to the scalp.



Head louse adult. Photo: University of Florida

Head lice are small (1/8 inch), wingless insects with sucking mouthparts, and legs modified for grasping hairs. These lice prefer to cling to head hair with their claw-like legs. Head lice do not normally live in rugs, carpets or school buses. Lice do not have

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This issue

Head Lice Spray and Other Issues	1
May is National Asthma Awareness	3
End of Year Preparations and Green School Cleaning	4
Regional Workshops	5
IAQ Workshop	6
Links/Contacts	7

jumping legs or wings, so they cannot jump or fly from person to person. The 1/10 inch eggs (or nits) of head lice are oval, white and cylinder-like and are usually glued to the head hairs near the scalp. Near the ears and back of the head are common places for females to attach the eggs. These nits are sometimes mistaken for dandruff or residues of shampoo but will not wash off or be flicked off with a finger. Red bite marks or scratch marks are often seen on the scalp or neck. Typically, eggs hatch within seven to 10 days. Newly hatched lice must feed within 24 hours or die.

Heading Off Head Lice

- Teach children to avoid head-to-head contact during play and other activities at home, school, and elsewhere (sports activities, playgrounds, slumber parties, and camps).
- Teach children not to share clothing and supplies, such as hats, scarves, helmets, sports uniforms, towels, combs, brushes, bandanas, hair ties, and headphones. Lice can be manually removed from headphones with a cleaning wipe.
- Disinfest combs and brushes used by a person with head lice by soaking them in hot water (at least 130°F) for 5–10 minutes.
- Do not lie on beds, couches, pillows, carpets, or stuffed animals that have recently been in contact with a person with head lice.
- Clean items that have been in contact with the head of a person with lice in the 48 hours before treatment. Machine wash and dry clothing, bed linens, and other items using hot water (130°F) and a high heat drying cycle. Clothing and items that are not washable can be dry-cleaned or sealed in a plastic bag and stored for two weeks.
- Vacuum the floor and furniture, particularly where the person with lice sat or lay. Head lice survive less than one or two days if they fall off the scalp and cannot feed.
- **Do not use insecticidal premise sprays or fogs; they are not necessary to control head lice and can be toxic if inhaled or absorbed through the skin.**
- After finishing treatment with lice medication, check everyone in your family for lice after one week. If live lice are found, contact your health care professional.

See the CDC website for frequently asked questions

Source: http://schoolipm.utk.edu/documents/newsletters/february_2011.pdf

Teachers NOT Allowed to Apply Pesticides in Schools

Tennessee Code Annotated 62-21-124. Pesticides in buildings used for food preparation and service, or lodging states:

- (a) Whether or not engaged in the business of applying pesticides, a person may not apply a pesticide within any of the following buildings, except under the direct supervision of a person licensed to apply pesticides in accordance of this chapter:
- (1) any building used for the preparation or serving of food;
 - (2) any building used for the temporary or permanent lodging of others;
 - (3) any building used primarily for educational purposes, except those buildings used primarily for religious instruction or for providing education to not more than ten (10) persons; or any commercial food processing facility.

Thus, nurses, computer lab supervisors, teachers, custodians, maintenance and other school personnel are NOT allowed to apply pesticides in a school unless the school has someone licensed for this purpose. I would expect most school personnel have not been made aware of this Tennessee law. (By the way, violation of this law could result in a class A misdemeanor. Most likely, the Tennessee Department of Agriculture would warn the violator, but if repeated occurrences were to occur after a warning, a judge would be determining the discipline.)

In schools, we want to prevent the school occupants from being exposed to pesticides and in the case of head lice, it just isn't necessary. Some pesticide labels will actually state that pesticides cannot be applied while children are present. Some of the premise lice spray formulations are for home use only. In addition, the application of some products that have a strong odor (even a strong pleasant odor) and are low in toxicity, could trigger an asthma attack if done when children or other occupants are present.



National Asthma Awareness Month Starts Next Week

Pat Barnwell and Karen Vail

Asthma is one of the leading causes of school absences due to illness. Nationwide about 10% of children under the age of 18 have been diagnosed with this chronic lung disease. In Tennessee, according to Tennessee Department of Education, Office of Coordinated School Health, Annual School Health Services Report for the 2015-16 School Year, 30% of all students diagnosed with a chronic illness or disability were diagnosed with asthma. Incidence of asthma has increased 78% from 2004-05 to 2015-16, and response to asthma related distress accounted for 30% of emergency procedures involving students. Other Tennessee school children are sensitive to environmental allergens which include many of the same substances that can trigger asthma.

A number of substances in the indoor environment are known to trigger asthma such as mold, dust, smoke, strong odors (colognes or perfumes, paints, pesticides, cleaners or deodorizers, and markers), chalk dust, animal dander, cockroaches, and airborne dust contaminated with rodent urine. Custodians, maintenance and facilities can help to reduce some of these triggers. Schedule painting, major repairs and renovations during long vacations or summers months. Monitor humidity, ventilation and indoor air quality. Repair leaks in roofing and plumbing as soon as possible. Use cleaning products with low VOC (volatile organic compounds) ratings and clean when staff and students will not be exposed to the fumes. Use vacuums with HEPA filters.

Cooperate with your pest management professional by eliminating cardboard, reducing clutter, storing food in pest proof containers, repairing leaks, sealing openings around doors, windows, and utility penetrations and practicing good sanitation to reduce resources for cockroaches and mice. Cardboard besides being an ideal nesting site for pests can get moldy and dusty.

Ask pest management professionals (PMPs) to service the school when children are not present. Request that pesticides not be sprayed for pests unless pests are present. Ask that baits be used to control cockroaches and snap traps or glue boards to control mice indoors. PMPs can place snap traps and glue boards in locked rodent boxes that can be kept away from children. Rodents baits used indoors can lead to dead rodents in wall voids and result in strong odors as the rodent decays.

For more information about managing asthma in schools see *Managing Asthma, A Guide for Schools*. A quick check to see how asthma friendly your school is can be found on page 34 of the publication.

Resources: *Managing Asthma, a Guide for Schools*, NIH Publication NO. 02-2650. National Asthma Education and Prevention Program, U S Dept. of Health and Human Services, and US Dept. of Education, http://www.nhlbi.nih.gov/files/docs/resources/lung/asth_sch.pdf

Tennessee Department of Education, Office of Coordinated School Health, Annual School Health Services Report, 2013-14 School Year, http://www.tn.gov/assets/entities/education/attachments/csh_annual_report_2015-16.pdf

Source: <http://schoolipm.utk.edu/documents/newsletters/May2015.pdf>

Green School Cleaning

Pat Barnwell and Karen Vail

As we approach the end of the school year, teachers, administrators, custodians, IPM coordinators, grounds crews, kitchen staff and students have visions of the beach in mind, but hold on a minute. There are few actions that each of you can take that will make your return to school a more pleasant experience. Please see page 2 and 3 at <http://schoolipm.utk.edu/documents/newsletters/May%202013.pdf> for steps that will help reduce the number of pests in school over the summer break.



Cockroaches live contentedly in the seals of refrigerator and microwave doors. Appliances need to be cleaned regularly, and refrigerators emptied before breaks. To increase accountability, consider drawing up a schedule for lounge staff. Snyder & Gouge, U of AZ

For those of you working in Middle and East Tennessee, be careful when cleaning to prevent brown recluse bites. Look before you reach into a drawer. Although we immensely dislike the use of cardboard boxes in classrooms because they offer harborage to cockroaches and other pests, if you do use cardboard for storage, please securely tape them to prevent pests from crawling in. See http://schoolipm.utk.edu/documents/newsletters/march_2011.pdf for more information on avoiding brown recluse.



Male and female brown recluse spiders on a sticky trap. UT E&PP

Since we are on the subject of cleaning and asthma, custodians should read all labels and should wear the proper protective equipment to protect themselves from harsh chemicals. Using safer cleaning products protects custodians, students, and staff. Products such as bleach, ammonia, floor strippers and bathroom cleaners can irritate the respiratory system and chemically burn eyes and skin. Custodians repeatedly exposed to harsh chemicals or those exposed to a high dose can develop asthma. Chemicals can exacerbate asthma in workers with asthma. Green cleaning products exist that are a safer alternative to conventional chemicals. Schools in California reported less absenteeism in students and staff after switching to green products; they attributed this to improved air quality. When school districts bought green cleaning products in bulk they saved money. Products often are packaged as concentrates and dispensed with dilution systems. California school systems found that they used less chemicals overall.

The Centers for Disease, Control and Prevention (CDC) recommends placing more emphasis on washing hands than disinfecting or sanitizing the school premises. During outbreaks of the flu, disinfecting high touch areas such a door and faucet handles or computer keyboards may be justified. Kitchen staff should follow recommendation of the health department which does require sanitizing food surface preparation areas, kitchenware, tableware and utensils. Workers should read the labels on disinfectants and sanitizers and use personal protective equipment as recommended on the labels.

A number of good resources about green cleaning and managing asthma exist online.

<http://www.cleaningforhealthyschools.org/>

[http://www.cleaningforhealthyschools.org/documents/FAQs on Costs of green cleaning in schools final4-16-09_.pdf](http://www.cleaningforhealthyschools.org/documents/FAQs%20on%20Costs%20of%20green%20cleaning%20in%20schools%20final4-16-09_.pdf)

<http://www.greenschools.net>

<http://www.cdph.ca.gov/programs/ohsep/Pages/AsthmaPubs.aspx#reports>

<http://www.epa.gov/iaq/schools/managingasthma.html#Sources>

http://www.huffingtonpost.com/claire-l-barnett/green-cleaning-at-school-b_6987846.html retrieved 4-10-15

Source: <http://schoolipm.utk.edu/documents/newsletters/May2015.pdf>

UT Extension to Hold School IPM Regional Workshops on May 16 and 18, 2017



The University of Tennessee Extension is encouraging all schools in Tennessee to adopt an integrated pest management (IPM) program in accordance with the National PMSP's (Pest Management Strategic Plan) call for all the nation's schools to be using IPM by 2020. IPM is a common sense approach to pest management that emphasizes the use of low risk but effective means to suppress pests. Children are more vulnerable to pesticides because their organ systems have not reached developmental maturity. Because children spend considerable time at school, they increase their risk of pesticide exposure if pesticides have been applied in a manner inconsistent with IPM. Pests pose risks from venomous bites, disease transmission, and allergic responses and may disrupt the learning environment. School IPM programs aim to reduce and balance risks from pests and pesticides to school occupants and the environment.

We would like to invite representatives (director of schools, custodial staff, facilities supervisor, grounds staff, kitchen staff, maintenance supervisors, and the pest management professional) from your school system to attend one of the following workshops from 1:30—3 pm at:

Copper Basin Elementary School
206 Cougar Dr, Copperhill, TN 37317
on May 16th

Or

Auburn Elementary School
150 Vantrease Avenue
Auburntown, TN 37016
on May 18th

The purpose of this workshop will be to showcase the school as a model IPM system for surrounding counties and to view IPM in action. We will have a short lecture on IPM and demonstrate how to inspect the building and its perimeter. Please encourage your school system's pest management professional to attend.

Save the date to talk to the staff at the pilot school and learn about simple things that you can do to improve pest management. All employees have an effect on their school's IPM program. Even staff with no formal responsibility for pest control can determine the degree of success of an IPM program.

We look forward to seeing you. Please respond to Jennifer Chandler (jchand11@utk.edu or 865-974-7138) by May 12 if you will be attending.

IAQ Knowledge-to-Action Professional Training Webinar Series

Don't forget to register for next week's webinar! **Using Data to Drive Buy-In and Funding to Reduce Asthma Triggers:**

Webinar participants will learn how to—

- Harness the power of evaluation to develop a business case, a value proposition and a communication strategy that generate broader acceptance of, compliance with and funding for IAQ management, with a specific focus on reducing asthma triggers. Design and successfully implement a strategy to identify, collect and use data with low-cost, easy-to-use tools (e.g., the [School IAQ Assessment Mobile App](#)) to start, improve or sustain a comprehensive IAQ and asthma management program.
- Employ evidence-based strategies and proven practices that are being used in school-based health centers across the country to reduce exposure to environmental asthma triggers. Replicate the strategies used by a school district that successfully reduced asthma attacks, increased attendance and improved academic performance through effective implementation of the [“Communicate” and “Evaluate” Key Drivers of the IAQ Tools for Schools Framework](#).

REGISTER: Thursday May 4, 2017, Time: 1:00 to 2:30 EDT

Featured IAQ Experts

- Tracy Enger, *Facilitator, U.S. Environmental Protection Agency, Indoor Environments Division*
- Diane Rhodes, *Asthma Awareness Education Program, Assistant Director, Health Services, North East Independent School District, TX*
- Anne Kelsey Lamb, *Director, Regional Asthma Management and Prevention Program, CA*

What Is the IAQ Knowledge-to-Action Professional Training Webinar Series?

The [IAQ Knowledge-to-Action Professional Training Webinar Series](#) comprises four 1-hour technical, core-competency, Web-based trainings that demonstrate how the knowledge gained in the [IAQ Master Class Professional Training Webinar Series](#) can be translated into actions that improve or sustain an IAQ management program within your school or school district.

Learn from technical experts, industry leaders and model school districts during these free, on-demand 1-hour webinars. A 30-minute mentoring Q&A session follows each webinar. You will learn how to implement a successful organizational and programmatic framework for comprehensive, proactive IAQ management using EPA's [Framework for Effective School IAQ Management: Key Drivers](#). In addition, the series will cover the critical actions needed to address building-related environmental health issues ([Technical Solutions](#)) and will explain how to use the detailed walkthrough assessment checklists in the [School IAQ Assessment Mobile App](#) to identify and prioritize IAQ improvements.

Gain recognition for your knowledge acquisition and commitment to action by receiving a certificate of completion after viewing each webinar.

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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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