



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

HEAD LICE UPDATE!

Karen M. Vail

The FDA recently released an announcement about a new product, Ulesfia Lotion™ containing 5% benzyl alcohol, to treat head lice. This product applied in two, 10-minute treatments one week apart left more than 75 percent of the participants lice free 14 days after the last treatment. Details on product use can be found at the FDA web site below. With about 6 to 12 million cases of head lice infestations in 3 to 11 yr. old American children per year (CDC), I thought I'd take this opportunity to highlight some of the more important aspects of head lice management. The information that follows is from the FDA web site source listed below.

Steps for Safe Use

Follow these steps to use any head lice treatment safely and appropriately:

- After rinsing the product from the hair and scalp, use a fine-toothed comb or special “nit comb” to remove dead lice and nits.
- Apply the product only to the scalp and the hair attached to the scalp—not to other body hair.
- Before treating young children, talk with the child's doctor or your pharmacist for recommended treatments based on a child's age and weight.
- Use medication exactly as directed on the label and never more often than directed unless advised by your health care professional.
- Use treatments on children only under the direct supervision of an adult.

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.
- Disinfect 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 insecticide 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 about lice and management cdc.gov/lice/head

Sources

FDA Anonymous. July 24, 2009. Treating Head Lice. <http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm171730.htm>
 Head Lice Information from the Centers for Disease Control and Prevention. www.cdc.gov/lice/head/
 National Pediculosis Association. www.headlice.org

Special points of interest:

- > [Head Lice Update!](#)
- > [Pest Proofing: Caulks, Sealants, Foams, Metal Products or Door Sweeps?](#)

“Current evidence does not support the efficacy and cost-effectiveness of classroom or school-wide screening for head lice to reduce the number of head lice infestations among school children. “No-nits” policies that require a student to be free of nits before they can return to school are not recommended. Students diagnosed with live head lice should not be sent home early from school; they can go home at the end of the day, be treated, and return to class the next day. Excluding children from school because of head lice is not recommended.”

CDC Head Lice FAQs
<http://www.cdc.gov/lice/>

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Pest Proofing: Caulks, Sealants, Foams, Metal Products or Door Sweeps? By Karen Vail

Pests seek our homes, schools and other structures to avoid temperature and moisture extremes, find the necessities of life such as food, water and harborage, and even find protection from predators. During a drought, they may enter for moisture and during a wet season they may enter to avoid drowning or to find food sources because theirs have been washed away or are inaccessible. A penetration through the structure's exterior wall allows air currents to escape and release food aromas and possibly moisture which can attract pests to the structure.

Pest proofing involves applying a material to cracks or holes to keep pest insects and rodents out of structures or to prevent them from moving within structures. Holes or cracks greater than ¼ inch are recommended for sealing. Integrated pests management (IPM), a method of balancing and reducing risks associated with pests and pesticides, emphasizes pest proofing. This article will describe the materials, such as caulks, sealants, foams, door sweeps, and metal products, used to pest proof structures under various conditions.

SEALANTS AND CAULK. Small holes can be caulked or sealed to prevent pest penetration. Small holes can include wall penetrations, under roof flashing edging, expansion joints, gaps around window and door framing, and other areas. Evidently, it is important to understand the amount of movement between the surfaces to be sealed before choosing a pest proofing product. Movement, in general, is reduced between surfaces of similar items. For example, wood-to-wood surfaces will move less than wood-to-glass surfaces. Unfortunately, many of us use the words "caulk" and "sealant" as if they were the same word, but there are considerable differences between the two. Caulk will not return to its original shape after stretching or compression and is said to be non-elastomeric. Caulk is best used to fill gaps less than 1/4 inch where movement between surfaces is not expected. Sealants may be used when movement between surfaces is expected to be more than 25%, but less than 50% of the gap width.

Although sealants are often the preferred choice for pest proofing cracks, many factors such as compatibility between surfaces and the sealing material, life expectancy, temperature of application and use, appearance and ease of handling, are considered when choosing a product. The properties of several sealants and caulks are summarized in the table by Corrigan at <http://www.entm.purdue.edu/entomology/outreach/schoolipm/pdfs/EXC.pdf>.

As long as sealants are not being used on plastic, those containing siliconized latex or ethylene copolymers are usually a good choice because they allow for up to 25% movement, may last up to 30 yrs, and maintain seals between -20 and 180F or more. They are compatible with many surfaces, but not plastic, and can be painted. Corrigan lists Geocel™, NP-1™ and Rustoleum's industrial grade sealant as common brand names of ethylene copolymers or siliconized acrylic latex.

FOAM FILLERS. Foam fillers are often NOT the ideal product to use if durability and sealing are the primary purposes, but foams are often used because of ease of application – they are applied from a can and quickly expand to fill gaps. However, foams are difficult to clean because of the small holes and crevices that form and allow various forms of dust and debris to become lodged. Foam fillers are not recommended for sensitive accounts (food-handling facility, health-care facility, zoological garden, etc.) because if they get wet, bacteria, fungi and other microbes could grow. The foam plugs can be chewed and penetrated by rodents and chewing insects. Because foam fillers are not elastomeric, the "seal" that forms may not keep out very small insects, ants or mites. When the foam expands, structural elements (moldings, baseboard, fascia board, etc.) can be warped or damaged and warped boards may not form good seals. Sunlight can degrade the foam fillers, and thus they should not be used for outdoor or exterior use.



Sealants containing siliconized latex or ethylene copolymers are usually a good choice for sealing small gaps. Photo credit: UT E&PP, K. Vail.

Foam fillers may have some valid uses such as filling large holes that are then “sealed” with an appropriate sealant. If a hole is not visible in the living space and not found in a sensitive environment, and rodents are entering before your eyes, foam may provide a quick fix, but it will not provide a long-lasting fix and may eventually need to be removed and replaced (which may prove difficult). It makes more sense to fill the hole correctly at the onset.

METAL PLATES AND OTHER METAL PRODUCTS. Many rodent and insect pests use guidelines such as pipes, wires, conduits and the intersection of two surfaces to help them orient and move from place to place. If a pipe or line penetrates a wall and is not sealed well, then pests including rodents, ants, cockroaches, flies and even bed bugs can move from floor to floor or room to room. Once a pest is inside a building, they’ll search for a crevice or void that provides warmth and protection. Pipes or utility lines often lead them to these dark wall voids, and areas between floors and ceilings. Wall voids near kitchens and bathrooms and ovens in commercial kitchens often provide the warmth and humidity for which pests are searching.

An escutcheon plate, the plate that fits over the pipe and covers the gap between it and the surface from which it projects, when properly sealed can prevent pest entry. Escutcheon plate is not a word that most of us use every day, but you are possibly familiar with it and may refer to it as a pipe collar or ring or plumbing plate. In older buildings, think of where radiator lines vertically penetrate from one apartment to the next. Rodents (and their pheromones, urine, etc.) move along these lines and will continue to move along these lines unless properly sealed at the penetration. In commercial facilities, heavy-duty stainless steel escutcheon plates should be used, but in residences or small commercial facilities different plate materials (including metal), shapes and sizes can be chosen.

Escutcheon plates aren’t effective if they aren’t sealed against the wall. Of the 66 pipe penetrations observed in the men’s restrooms at a college campus, only 53% had the plate sealed to the wall. Use a sealant as described above to help keep the plate against the wall in this vibrating and moving environment. Foam fillers are not good substitutes for escutcheon plates and should not be used to “seal” the plates to the wall.



How not to install an outdoor escutcheon plate. A. Outdoor pipe penetration lacking an escutcheon plate. B. Outdoor broken escutcheon plate. C. Outdoor escutcheon plate not sealed to wall. D. Escutcheon plate pressed to wall, but not sealed around edges. Photo credit: UT E&PP, J. Maples.



Two unsealed indoor escutcheon plates in one shot! Photo credit: UT E&PP, K. Vail.

Steel wool (top) and copper mesh (bottom) can be used to fill small holes where air flow is needed. Steel wool can rust and thus degrade, and stain surfaces, so copper mesh is often preferred. Photo credit: UT E&PP, J. Maples.

Rodents don't like to chew steel wool or copper mesh so these metal products can be stuffed into small holes where air flow is needed, such as in a brick weep hole. Steel wool often rusts and decays rapidly, so copper mesh is preferred where moisture is an issue. If rodents are removing the metal mesh plugs, try construction adhesive or mortar to prevent further removal.

For larger holes, hardware cloth or sheet metal would be preferred over metal mesh or steel wool. Hardware cloth and sheet metal will require additional tools and materials to install and attach. Hardware cloth can be used behind vent openings in crawlspaces and soffits, in weep holes, and other similar areas. The choice of hardware cloth including the mesh size, thickness of the wire, and material (galvanized, stainless or vinyl covered) will depend on the pest and the spot to be sealed. Sheet metal also comes with different options, such as galvanized or stainless and varying thicknesses. Although aluminum is easier to work, it is also more easily penetrated by rodents.

DOOR SWEEPS. Kramer (2005) describes door sweeps as providing the “most bang for the buck” to prevent rodent entry around and under doors. A door sweep kit will usually contain the hardware necessary for installation along with the sweep and mounting bracket. Door sweeps are an easy fix to keep rodents out of structures, especially schools, but often funds are not allocated to install this equipment and rodents continue to assault the facility.



Poorly sealed door. Photo credit: UT E&PP, J. Maples.



Door in a need of sweep. Light can be seen under the door indicating the door is sealed poorly. Photo credit: UT E&PP, J. Maples.



A corner door sweep would be helpful to seal this ¼ inch hole. Photo credit: UT E&PP, J. Maples.

Sources:

Corrigan, B. 2008. Vertebrate pests: Escutcheonology 101. PCTOnline February <http://www.pctonline.com/articles/article.asp?MagID=1&ID=3121&IssueID=239>

Corrigan, B. 2005. Vertebrate pests: Pest-proofing small holes. PCTOnline June <http://www.pctonline.com/articles/article.asp?MagID=1&ID=2432&IssueID=205>

Corrigan, B. ?. Recommendations for selecting and using caulks and sealants in pest management operations. <http://www.entm.purdue.edu/entomology/outreach/schoolipm/pdfs/EXC.pdf>

Kramer, R. 2006. Technically speaking: Seal it and they will come. September PCT Online <http://www.pctonline.com/articles/article.asp?MagID=1&ID=2741&IssueID=222>

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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

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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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