

Colorado Coalition for School IPM Newsletter

February 2019

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Colorado Coalition for School IPM Agency Partner Spotlight: Bed Bugs in Schools

Calming Fears and Dealing with Bed Bugs in Schools

By Marcia Anderson



Parents, teachers and students all worry when [bed bugs](#) are spotted at school because they are a public health concern. No bigger than an apple seed, bed bugs can hide in tiny cracks or hitch a ride to school or home on coats, shoes, clothing, backpacks and books. A bed bug sighting might mean that there is an infestation. Here are a couple of examples of bed bug fears teachers and students have shared with me:

- “Today every student on my school team received a letter about inspectors spotting a bed bug in one of our classrooms....I don’t want to go to school until they’re gone. What can I do to keep these bugs out of my house?!”
- “...I found a bed bug crawling on the desk.... What can I do? I already talked to my teacher, friends, and principal but (they) have not done anything? What should I do?”

The common question in these examples and so many others I see or read, is: What should schools do to prevent and stop the spread of bed bugs.

Safety First. Administrators need to be cautious about applying pesticides in school. Although it’s important to keep schools free of pests, it’s also essential to use pesticides only when necessary. This thoughtful approach is important because students may be affected by pesticide use.

Action. Schools need to investigate the extent of the pest problem, then use an approach called [Integrated Pest Management \(IPM\)](#). The IPM approach involves inspecting for pests, properly identifying what’s found, and taking steps like cleaning and daily maintenance to prevent pests. Vacuuming, steam cleaning, using hot dryers and plastic storage bins, and removing clutter are the preferred actions when a single bed bug is sighted in a school.

Prevention. There are things students and teachers can do to prevent the spread of bed bugs, like placing coats and book bags into individual plastic containers or bags, and carrying as few items as possible from home to school. Never throw coats or book bags on the floor, bed or couch.

Book bags and jackets should be treated in a hot dryer for 30 minutes once a week, especially if

the school has had a recent bed bug sighting.



Just because bed bugs are tiny doesn’t mean they don’t pose a big threat. Following these tips, educating staff and parents, and having an effective pest management plan can go a long way in reducing the number and intensity of bed bug infestations. It also will certainly reduce the spread of bed bug hysteria when an incident does occur.

About the author: Marcia is with the Center for Integrated Pest Management in the Biopesticides and Pollution Prevention Division within EPA Headquarters. She holds a PhD in Environmental Management from Montclair State University along with degrees in Biology, Environmental Design, Landscape Architecture, and Instruction and Curriculum in Earth Science. Marcia was formerly with EPA Region 2, is a bed bug and School IPM subject matter expert, and was a professor of Earth and Environmental Studies, at three universities.

CCSIPM Spotlight: Integrated Pest Management Webinar Series



Integrated Pest Management

2019

Integrated Pest Management Webinar Series

Due to the government shutdown, we have rescheduled our Rodent webinar series. Please note:

- If you previously registered for Rodents I, you will need to re-register for this webinar.
- If you previously registered for Rodents II, you will not need to re-register for this webinar.

Rodents I - Behavior and Tracking

March 7, 2019

[Register Now](#)

Rodents II - Prevention and Control

March 28, 2019

[Register Now](#)

Need Assistance?

If you have any questions about the IPM guidance or upcoming trainings and webinars, please contact us at school.ipm@epa.gov

Featured Pest of the Month: Rodents

Prevention and Management of Rodent Infestation

Worldwide, rats and mice spread over 35 diseases. These diseases can be spread to humans directly, through handling of rodents, through contact with rodent feces, urine, or saliva, or through rodent bites. Diseases carried by rodents can also be spread to humans indirectly, through ticks, mites or fleas that have fed on an infected rodent. Mice and rats are common problems in and around homes and schools. Rodents cause fires by gnawing on electrical wires and are associated with allergens and asthma triggers besides transmission of diseases.

Common rodents include: House mouse, *Mus musculus*, Roof rat, *Rattus rattus* and Norway rat, *Rattus norvegicus* and can be distinguished by the following characteristics:

- The house mouse weighs about 1/2 ounce and is 3 to 4 inches in length with a dark tail of about the same length. Its rod-shaped feces are pointed at each end and about 1/4-inch long.
- Roof rats range in color from black to gray or tan with a lighter belly. Their tails are dark and longer than their combined head and body length.
- Norway rats are reddish brown in color and are typically heavier than a roof rat. The length of a Norway rat's tail is shorter than the combined head and body length. The tail is also dark on top and light underneath.

In many areas of the United States, *Peromyscus* species (deer mice and white-footed mice) commonly enter buildings and may be confused with house mice.

The primary strategy for preventing human exposure to rodent diseases is effective rodent control in and around the home or school. This can be achieved by eliminating any food sources, sealing even the smallest entries into homes, and successfully trapping rodents in and around the home.

Seal up holes inside and outside the home/school to prevent entry by rodents: Mice can squeeze through a hole the size of a nickel, and rats can squeeze through a hole the size of a half dollar! Prevent rodents from entering the home by checking inside

and outside the house for gaps or holes and Sealing up holes on the exterior.

Where to look for gaps or holes inside your home/school

- Inside, under, and behind kitchen cabinets, refrigerators and stoves.
- Inside closets near the floor corners.
- Around the fireplace.
- Around doors.
- Around the pipes under sinks and washing machines.
- Around the pipes going to hot water heaters and furnaces.
- Around floor vents and dryer vents.
- Inside the attic.
- In the basement or crawl space.
- In the basement and laundry room floor drains.
- Between the floor and wall juncture.

Where to look for gaps or holes outside your home or school

- In the roof among the rafters, gables, and eaves.
- Around windows.
- Around doors.
- Around the foundation
- Attic vents and crawl space vents.
- Under doors.
- Around holes for electrical, plumbing, cable, and gas lines.

Fill small holes with steel wool. Put caulk around the steel wool to keep it in place. Use lath screen or lath metal, cement, hardware cloth, or metal sheeting to fix large holes. These materials can be found at your local hardware store. Fix gaps in trailer skirtings and use flashing around the base of the house. If you do not remember to seal up entry holes in your home, rodents will continue to get inside. Outbuildings and garages should also be sealed to prevent the entrance of rodents.

Trap rodents around the home or school to help reduce the rodent population

When setting the trap, place a small amount of peanut butter (approximately the size of a pea) on the bait pan of the snap trap. If allergies to peanut butter is anticipated among children in school, one may consider using chocolate syrup or any other baits on trap. Position the bait end of the trap next to the wall so it forms a "T" with the wall. Rodents prefer to run next to walls or other objects for safety and do not like being out in the open.

In attics, basements, and crawlspaces and other areas that do not have regular human traffic, set traps in any area where there is evidence of frequent rodent activity. Some rodents, particularly rats, are very cautious and several days may pass before they approach the traps. Other rodents, such as house mice and deer mice, are less cautious and may be trapped more quickly.

Positioning a snap trap so it forms a "T" with the wall.

We do not recommend using glue traps or live traps. These traps can scare mice that are caught live and cause them to urinate. Since their urine may contain germs, this may increase your risk of being exposed to diseases.



Also place traps in outbuildings and in areas that might likely serve as rodent shelters. Natural rodent predators, such as non-poisonous snakes, owls, and

hawks, may also help control and reduce the number of rodents outside the home.

Clean up rodent food sources and nesting sites:

Keep food in thick plastic or metal containers with tight lids.

Eliminate possible rodent food sources: Prevent contact with rodents by cleaning up your home, workplace, or campsite.

- Keep food in thick plastic or metal containers with tight lids.
- Clean up spilled food right away and wash dishes and cooking utensils soon after use.
- Keep outside cooking areas and grills clean.
- Always put pet food away after use and do not leave pet-food or water bowls out overnight.

- Keep bird feeders away from the house and utilize squirrel guards to limit access to the feeder by squirrels and other rodents.
- Use a thick plastic or metal garbage can with a tight lid.
- Keep compost bins as far away from the house as possible (100 feet or more is best).
- Keep grains and animal feed in thick plastic or metal containers with tight lids. In the evening, uneaten animal feed should be returned to containers with lids.



If storing trash and food waste inside the home, do so in rodent-proof containers, and frequently clean the containers with soap and water. Dispose of trash and garbage on a frequent and regular basis, and pick up or eliminate clutter.

Eliminate possible nesting sites outside the home or school. Elevate hay, woodpiles, and garbage cans at least 1 foot off the ground. Move woodpiles far away from the house (100 feet or more is best). Get rid of old trucks, cars, and old tires that mice and rats could use as homes. Keep grass cut short and shrubbery within 100 feet of the home are well trimmed.

For other control methods of rodents, check the sources of this information below.

Sources: https://www.cdc.gov/rodents/prevent_infestations/ and

<https://articles.extension.org/pages/63911/ipm-action-plan-for-rodents>.

Current Pests: What Are You Seeing?

Arapahoe, Douglas, & Elbert Counties

Fungus gnats: Adults commonly are observed around windows and around the soil of potted plants where they originate.

Indian meal moth: Adult moths emerge from stored foods and can be seen flying around homes.

Carpet beetles: Some adults may emerge and be found in homes.

Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes

Denver Metro Area

Fungus gnats: Adults commonly are observed around windows and around the soil of potted plants where they originate.

Carpet beetles: Some adults may emerge and be found in homes.

Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Winged termites: Winged reproductive stages begin to emerge and swarm.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes

Ants: Field ants forage in homes for sweet materials.

Clover mites: On very warm days in February clover mites may become active on lawns and sides of buildings.

Eastern Plains Counties

Fungus gnats: Adults commonly are observed around windows and around the soil of potted plants where they originate.

Carpet beetles: Some adults may emerge and be found in homes.

Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Winged termites:Winged reproductive stages begin to emerge and swarm.

Firewood insects:Bark beetles and wood borers emerge from stored wood in homes

Ants: Field ants forage in homes for sweet materials.

El Paso & Teller Counties

Fungus gnats: Adults commonly are observed around windows and around the soil of potted plants where they originate.

Indian meal moth: Adult moths emerge from stored foods and can be seen flying around homes.

Carpet beetles: Some adults may emerge and be found in homes.

Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes

High Country Counties

Fungus gnats: Adults commonly are observed around windows and around the soil of potted plants where they originate.

Indian meal moth: Adult moths emerge from stored foods and can be seen flying around homes.

Carpet beetles: Some adults may emerge and be found in homes.

Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes

Northern Front Range

Fungus gnats: Adults commonly are observed around windows and around the soil of potted plants where they originate.

Indian meal moth: Adult moths emerge from stored foods and can be seen flying around homes.

Carpet beetles: Some adults may emerge and be found in homes.

Conifer seed bugs, Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes

Clover mites: Migrations of mites from lawns into buildings may begin at this time, during warm days

Ants: Field ants forage in homes for sweet materials.

Pueblo & Fremont Counties

Fungus gnats: Adults commonly are observed around windows and around the soil of potted plants where they originate.

Carpet beetles: Some adults may emerge and be found in homes.

Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Winged termites: Winged reproductive stages begin to emerge and swarm.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes

Ants: Field ants forage in homes for sweet materials.

Southwestern Counties

Fungus gnats: Adults commonly are observed around windows and around the soil of potted plants where they originate.

Indian meal moth: Adult moths emerge from stored foods and can be seen flying around homes.

Carpet beetles: Some adults may emerge and be found in homes.

Conifer seed bugs, Boxelder bugs, cluster flies: Overwintered adults become active in and around homes.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes

Swallow Bugs: Overwintered swallow bugs start to become active in anticipation of returning migrant birds - and bite humans.

Clover mites: Migrations of mites from lawns into buildings may begin at this time, during warm days

Tri-River Counties

Fungus gnats:Adults commonly are observed around windows and around the soil of potted plants where they originate.

Carpet beetles:Some adults may emerge and be found in homes.

Boxelder bugs, cluster flies, root weevils, lacewings:

Overwintered adults become active in and around homes.

Winged termites: Winged reproductive stages begin to emerge and swarm.

Indian meal moth: Although infestations may persist year-round, presence of moths often declines in homes at this time.

Firewood insects: Bark beetles and wood borers emerge from stored wood in homes

Ants: Field ants (Formica species) may forage in homes for sweet materials.

Source: <http://bspm.agsci.colostate.edu/outreach-button/insect-information/> (Yard/Garden Insect Calendars)

Credits

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