



Photo by Gary Alpert, Harvard University (Bugwood.org)

Bed bugs adult (center), nymph (upper left), and fecal spots.

Controlling Bed Bugs

Bed bug control requires a combination of approaches, as pesticides alone are not completely effective. A comprehensive strategy should include education and awareness about bedbugs, vacuuming and cleaning, and elimination of hiding places. Professional steam or heat treatments can be effective if performed by trained personnel. Less-toxic insecticides can be used, but application of residual insecticides is not advised in most school situations. Bug bombs or foggers are NEVER recommended in any situation, as bed bugs hide in sheltered places that are unaffected by these pesticide applications. For the best results, consider consulting with a professional pest management company with experience in bed bug detection and control.

“Good night, sleep tight; don’t let the bed bugs bite.” The familiar refrain we have heard for years has taken on a more sinister meaning as bed bugs make a world-wide resurgence. Motels, theaters, schools, apartment buildings, and homes are just some of the places bed bugs can be found. The good news is, unlike many other blood-sucking parasites, bed bugs are not known to transmit human diseases. Bed bugs prefer to feed on humans, but in a pinch they will also feed on other animals such as rodents, bats, and birds. Bed bugs move around by hitching rides or laying eggs on clothing, furniture, bedding, and baggage. Bed bugs don’t discriminate. People of all economic levels, housing types, races, colors, and religions are equally susceptible.

Adult bed bugs are flat insects around ¼" long and typically rusty brown-red in color. They are flat and broadly oval in shape. They lack wings, but can crawl very quickly. After feeding, adults are more elongated and torpedo-shaped, gradually returning to their flat, oval shape as their meal is digested. Females lay tiny white eggs that hatch into light-colored nymphs in about seven to 10 days. Immature nymphs resemble adults but are smaller (from less than ⅛" to almost ¼" depending on developmental stage). The nymphs turn bright red after a blood meal. While nymphs need blood meals to complete their development, adult bed bugs can survive for several months without feeding. During the day, bed bugs hide in any available crack, crevice, or sheltered spot within a few yards of their feeding area. At night, they come out of hiding to feed. Bites often occur as a row of several raised, reddened bumps. Most people don’t notice being bitten, but later the bites can become very itchy or painful. Bed bug bites can take up to two weeks to produce a reaction. Some individuals may have no reaction at all.

BED BUGS IN SCHOOLS: WHAT YOU SHOULD KNOW

Schools are not an ideal environment for bed bugs which prefer to feed at night—a time when most schools are relatively empty. Most bed bugs are brought into schools as stowaways on student or staff belongings. If bed bugs are detected in a classroom, collect a sample for identification by a professional. Bed bugs can closely resemble other species, so accurate identification is essential. Once a bed bug is identified, a thorough inspection of the area should be performed.

WHAT CAN YOU DO? Simple strategies for the classroom and beyond.

Your school district should have an action plan in place in case of a bed bug problem. In the classroom, you can help by planning ahead and being prepared. Monitor for bed bugs regularly, especially in pest-prone areas such as lost and found piles, donations, and storage areas for personal items such as coats, bags, and backpacks.

1. **REDUCE CLUTTER!!!** Clutter provides hiding places and shelter for a wide range of problem pests. Cardboard boxes in particular are VERY attractive to many pests.
2. Seal cracks and crevices. Inspect furniture and storage areas weekly.
3. **DON'T** use upholstered furniture in the classroom. Select furniture with smooth, easy-to-clean surfaces and few hiding places for bed bugs.
4. Floor pillows, mats, and other fabric items should be laundered regularly and dried in a hot dryer.
5. Provide separate lidded tubs for storing students' personal items. Backpacks and coats are a great way for bed bugs to spread. Lost and found collections should also be stored in lidded plastic tubs whenever possible.
6. Vacuum thoroughly and regularly, especially in corners, behind furniture, and along the wall base.

Thorough cleaning of the area where the bug was found may be needed. This should include careful vacuuming with particular attention paid to cracks and crevices in furniture, equipment, floors, etc. Washable items suspected of harboring bed bugs can be tumbled in a hot dryer (140° F). Dry items can be tumbled for 20 minutes; wet items should be dried completely and then tumbled an additional 20 minutes. Non-washable items that are heat-tolerant may also be treated by drying in this manner. This will kill adults, nymphs, and eggs.

If a bed bug is found on a student, their clothing, or belongings, it is NOT necessary to send the student home, but their parent or guardian should be notified. Depending on your district's policy, parents of all children using the classroom should be notified, as well. You may also wish to provide information about bed bugs including a description of the insects, signs and symptoms of infestation, and management information. Personal items belonging to EVERYONE using the classroom should be isolated in tightly sealed containers or bags (both at home and at school) while the problem is being resolved. Continue monitoring and re-inspecting the classroom and personal belongings/storage areas during this time.

FOR MORE INFORMATION ON BED BUGS:

- U.S. Environmental Protection Agency. <http://www.epa.gov/pesticides/bedbugs/>
- Centers for Disease Control. <http://www.cdc.gov/parasites/bedbugs/>
- New York State IPM (Cornell University).
http://www.nysipm.cornell.edu/publications/bed_bugs/files/bed_bug.pdf
http://www.nysipm.cornell.edu/whats_bugging_you/bed_bugs/bedbug_faqs.asp
- The National Pesticide Information Center (NPIC) provides objective, science-based information about pesticides and related topics to enable people to make informed decisions. To contact NPIC, call 1-800-858-7378 or visit <http://npic.orst.edu>.



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