Bedbugs: University Property

Photo 1. Bed Bug. Photo courtesy of Dr. Harold Harlan, Armed Forces Pest Management Board Image Library

Bed bugs (Photo 1) have been common in U.S. history. Although bed bug populations dropped dramatically during the mid-20th century, the United States is one of many countries now experiencing an alarming resurgence in the population of bed bugs. Though the exact cause is not known, experts suspect the resurgence is associated with increased resistance of bed bugs to available pesticides, greater international and domestic travel, lack of knowledge regarding control of bed bugs due to their prolonged absence, and the continuing decline or elimination of effective vector/pest control programs at state and local public health agencies.

Utah, like many states in the U.S. has seen an increase in the number of bed bug infestations in hotels, multi-unit housing complexes, and in private residences.

The University of Utah has also experienced an increase in bedbug infestations from major public buildings to student residences. Since 2008, there has been an average of 10-12 infestations per year requiring intervention. These infestations can be a major cause of stress to students, faculty and staff and be expensive to treat.

What are Bed Bugs?

Small insects (adults are about 1/4 inch long) that feed on the blood of humans and animals. Adults are reddish-brown in color and larva or nymphs are a clear-yellowish color, but when they feed, their bodies swell and become bright red. Bed bugs usually feed at night and can go weeks to months without feeding. They nest in close proximity to sleeping and sitting areas.

Bed bugs do not transmit infectious disease to humans. Therefore, they are not considered a public health threat. However, their bites can cause sores on the skin that can itch and can be painful. These sores can last for a week or more and can become infected if scratched to the point that they become open wounds.

What are the signs and symptoms of a bed bug infestation?

One of the easiest ways to identify a bed bug infestation is by the tell-tale bite marks on the face, neck, arms, hands, or any other body parts while sleeping. However, these bite marks may take as long as 14 days to develop in some people so it is important to look for other clues when determining if bed bugs have infested an area. These signs include:

- the bed bugs' exoskeletons after molting,
- bed bugs in the fold of mattresses, sheets, upholstered furniture
- rusty–colored blood spots due to their blood-filled fecal material that they excrete on the mattress or nearby furniture, and
- a sweet musty odor.

How do I know if I've been bitten by a bed bug?

It is hard to tell if you've been bitten by a bed bug unless you find bed bugs or signs of infestation. When bed bugs bite, they inject an anesthetic and an anticoagulant that prevents a person from realizing they are being bitten. Most people do not realize they have been bitten until bite marks appear anywhere from one to several days after the initial bite. The bite marks are similar to that of a mosquito or a flea -- a slightly swollen and red area that may itch and be irritating. The bite marks may be random or appear in a straight line. Other symptoms of bed bug bites include insomnia, anxiety, and skin problems that arise from profuse scratching of the bites.

Because bed bug bites affect everyone differently, some people may have no reaction and will not develop bite marks or any other visible signs of being bitten. Other people may be allergic to the bed bugs and can react adversely to the bites. These allergic symptoms can include enlarged bite marks, painful swellings at the bite site, and, on rare occasions, anaphylaxis.

Recommendations: Integrated Pest Management for Bed Bugs

Integrated pest management (IPM) is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. IPM programs use current, comprehensive information on the life cycles of pests and their interaction with people and the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment. IPM takes advantage of all appropriate pest management options, including the judicious use of pesticides. Although bed bugs may sometimes be controlled by non-chemical means alone, this approach is often very difficult, potentially less effective, and usually more resource intensive. A comprehensive IPM program to control bed bugs may include a number of methods such as:

- using monitoring devices, including canine searches
- applying heat treatment,
- sealing cracks and crevices to remove hiding places,
- using non-chemical pesticides (such as diatomaceous earth) and
- judicious use of effective chemical pesticides,
- removing clutter where bed bugs can hide,
- vacuuming

A coordinated campus IPM program can alleviate both the discomfort and cost of managing bed bugs. The underlying philosophy of bed bug IPM is based on the fact that bed bug infestations will not go away without intervention. In addition, intervention is most effective when populations are low.

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Sources:

Joint Statement on Bed Bug Control in the United States from the U.S. Centers for Disease Control and Prevention (CDC) and the U.S. Environmental Protection Agency (EPA) accessed at http://www.cdc.gov/nceh/ehs/publications/bed_bugs_cdc-epa_statement.htm

Utah Bureau of Epidemiology accessed at http://health.utah.gov/epi/diseases/bedbugs/

Utah State University Extension and Pest Diagnostic Laboratory accessed at http://utahpests.usu.edu/uppdl/