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Iowa IPM Notes

Prevention, Detection, and Control of Bed Bugs in the Home

The three questions most often asked about bed bugs are:

- How do I prevent bed bugs from getting into my home?
- How do I know if my home is infested with bed bugs?
- How do I quickly, efficiently, and effectively eliminate bed bugs if I have them?

The purpose of this fact sheet is to address these common questions.

How do I prevent bed bugs from getting into my home?

Bed bugs do not transmit diseases, but they are embarrassing and annoying. In addition, they may cause itching, discomfort, sleeplessness, and anxiety. For these reasons, people want ways to reduce the risk of introducing bed bugs into the home when traveling, visiting, or working.

It is unfortunate that bed bugs are good hitchhikers and can be transported in suitcases, furniture, mattresses, boxes, purses, backpacks, and clothing. This makes it important to follow the precautions outlined below.

General precautions

- Know what bed bugs look like and common signs of an infestation to help you avoid or to quickly recognize an infestation. See figures for details.
- Be vigilant when acquiring used furnishings, especially discarded furniture and mattresses.

Precautions when traveling or entering places that might have bed bugs

- Do not place luggage, briefcase, or other items on beds, couches, or chairs when you enter. In hotels, place luggage in the bathtub or in the middle of the room until you have inspected the room.
- Inspect by checking seams of the mattress and box spring and also the edges of the headboard.
- Use the luggage stand or put your items on the desk, dresser, or table rather than on the bed.
- If bed bugs are found, seal items you plan to bring back home in plastic bags or bins. Collect one or two specimens for identification and notify the building/hotel manager immediately.
- Back home, take clothing directly to the washing machine. Wash clothing and dry on the hot setting. Inspect and vacuum luggage.



Figure 1. Bed bugs are up to ¼ inch long, broadly oval, flat, and mahogany brown. (Gretchen Paluch, Iowa Department of Agriculture and Land Stewardship)

How do I know if my home is infested with bed bugs?

Bed bugs are often suspected when there are unexplained skin reactions on one or more occupants of the home. Skin reactions such as inflammation, dermatitis, itching, or rash have many causes. Not all bite-like marks are the result of bug bites. For this reason, a bed bug infestation cannot be determined based on the presence of bites or skin reactions. Further, bed bug treatment, especially insecticide treatment, should not be initiated until bed bugs have been found and positively identified.

Bed bugs are difficult to detect, especially at the early stages of an infestation when there are few bed bugs present. Bed bugs can fit into small cracks and crevices.

Methods for detecting bed bugs

- Visual inspections can be done yourself if you are familiar with bed bugs or by a professional. Signs of an infestation include bed bug adults, nymphs, and eggs; dark excrement stains left in hiding places; shed skins; and empty egg cases. See Figure 2.
- Monitors, interceptors, and traps are available to homeowners or from a pest management professional.
- Scent detection canines are highly trained and available only from pest management professionals.

In the meantime, many people worry unduly about spreading bed bugs. There are a few things you can do to minimize the chances you will spread bed bugs to friends' homes, work, school, and other places.

Precautions to prevent spreading bed bugs

- Do not discard furniture or mattresses before meeting with a professional. Often these items can be treated and moving furniture around will just disturb the bed bugs, possibly spreading them and making control more difficult.
- Do not leave purses, backpacks, or other items that you transport to work near the bed where a bed bug might crawl into it.
- Items that go back and forth to work or school can be stored in rooms other than the bedroom or in sealed plastic containers.
- Shake out clothing before getting dressed.
- Do not let children take stuffed animals, pillows, or other items from their bed to school or other places.



Figure 2. Fecal spots, eggs, and cast skins are common in the cracks and openings where bed bugs hide. (Barb Ogg, University of Nebraska-Lincoln Extension)

How do I quickly, efficiently, and effectively eliminate bed bugs if I have them?

If bed bugs have been detected in your home, we recommend you work with a professional pest management service as soon as possible. If you are renting, you should contact your landlord to discuss who is responsible for pest management in your dwelling.

Do-it-yourself bed bug controls are available, but because of widespread insecticide resistance to the available active ingredients, do-it-yourself treatments are not recommended. Incomplete, ineffective treatments will not solve the problem and may make the situation worse by spreading the bed bugs to other rooms or apartments.

Considerations when hiring a professional

- Do not rush. Be deliberate and thorough in researching your control options and available services. Double check if the prices quoted seem too high or too low because either extreme should be reason for concern.
- Treatment is costly. Bed bugs are not easily controlled and often follow-up treatments are needed. Depending on the size of the infestation and what sort of control options you choose to use, the cost could range from several hundred dollars to over \$1,000.
- There are different treatment options available, and pest management companies will often specialize in specific types. Costs can vary among treatment options.
- Read the written bed bug treatment proposal from the pest management company carefully. Note what is expected of you before, during, and after the treatment and what follow-up inspections and retreatments (if needed) will be provided by the company.
- Often you will have to help by laundering bedding, picking up clutter, etc.

- Bite-like marks do not prove that you have bed bugs. A pest management professional should be able to locate and show you a bed bug or other convincing evidence of infestation before treating.

Treatment options

There is no one right way to control bed bugs and most pest management professionals will use several different methods. For example, they may use heat to kill bed bugs but then treat with a residual insecticide to kill any bed bugs that may have escaped the heat treatment. There are positives and negatives to all the options. You should choose to work with a pest management professional who can clearly explain the options to you and why they recommend a certain treatment regime for your bed bug problem.

Help with bed bug identification

Bed bugs can be identified by Iowa State University Extension and Outreach. Collect several suspected bed bug specimens and place them in an empty bottle or zip-lock plastic bag. Take your sample to your local county extension office or mail samples in a padded envelope or box to the Plant and Insect Diagnostic Clinic (address below). There is a fee for household insect samples.

Digital images e-mailed are rarely sufficiently detailed to confirm a bed bug diagnosis but may help rule out specimens that are not bed bugs. See www.ipm.iastate.edu/ipm/info/submit/insect for more information on submitting an insect sample.

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