Key messages about bed bugs

- Learn to identify the signs of bed bugs and educate staff and tenants on how to identify the signs.
- Dirty living conditions do not cause bed bugs but cleaning and removing clutter will help in controlling them.
- Anyone can get bed bugs. Contact your pest control professional for assistance.
- Sealing cracks and small holes will help to reduce hiding places and help to prevent bed bugs from crawling between apartments.
- Work with your tenants, staff, and pest management provider. Getting rid of bed bugs needs to involve everyone.
- **Always follow the pesticide label**
- Bed bugs are here to stay, but through good management practices bed bugs can be controlled.

---

Preventing and Controlling Bed Bugs in Multi-Unit Housing

A guide for landlords and property managers

---

[www.idph.state.ia.us/](http://www.idph.state.ia.us/)
[www.ipm.iastate.edu/ipm/](http://www.ipm.iastate.edu/ipm/)
[www.cdc.gov](http://www.cdc.gov)
[www.epa.gov](http://www.epa.gov)
[http://epa.gov/pesticides/controlling/bedbugs.html](http://epa.gov/pesticides/controlling/bedbugs.html)
Why should landlords, property owners, and property managers care about bed bugs?  

Bed bug action plan and Prevention  
Prevention Training recommendations  
Tenant Recommendations  
Recordkeeping and Responding to Complaints  
Pre-Treatment Recommendations  
Hiring a Pest Management Professional  
Treatment Option Chart  
Disposing of infested furniture & covering mattresses

Life Cycle of the Bed Bug

- **Egg** (1 mm long)
  - Takes a blood meal, then molts.

- **1st stage larva** (1.5 mm long)
  - Takes a blood meal, then molts.

- **2nd stage larva** (2 mm long)
  - Takes a blood meal, then molts.

- **3rd stage larva** (2.5 mm long)
  - Takes a blood meal, then molts.

- **4th stage larva** (3 mm long)
  - Takes a blood meal, then molts.

- **5th stage larva** (4.5 mm long)
  - Takes a blood meal, then molts.

- **Adult** (5.5 mm long)
  - Takes repeated blood meals over several weeks. Females lay up to 5 eggs per day, continuously.

Covering mattresses

Cover mattresses and box springs with covers made for bed bug control. Bed bugs like to live in the beds and sleeping areas. Make sure you read the instructions on how the encasement has been tested and is effective on bed bugs.

Anyone can have a bed bug infestation. Bed bugs do not discriminate based on someone’s cleanliness of their home or social status.

Disposing of infested furniture

- Usually, it is not necessary to get rid of furniture or bedding at the first signs of bed bugs. Cleaning and enclosing is often adequate.

- Box springs should only be discarded if they cannot be covered with an encasement and are heavily infested.

- Both landlords and tenants should use plastic sheeting (shrink/pallet wrap) or tightly closed plastic bags to contain any items to be thrown away. Label with a sign that says “infested with bed bugs,” and take to a landfill or deposit in a secured receptacle.

Egg (1 mm long)
1st stage larva (1.5 mm long)
Takes a blood meal, then molts.

2nd stage larva (2 mm long)
Takes a blood meal, then molts.

3rd stage larva (2.5 mm long)
Takes a blood meal, then molts.

4th stage larva (3 mm long)
Takes a blood meal, then molts.

5th stage larva (4.5 mm long)
Takes a blood meal, then molts.

Adult (5.5 mm long)
Takes repeated blood meals over several weeks. Females lay up to 5 eggs per day, continuously.
<table>
<thead>
<tr>
<th>Management Method</th>
<th>Primary Responsibility</th>
<th>Estimated Retail Cost per System</th>
<th>Commentary</th>
<th>Compatibility with other methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vacuuming</td>
<td>PMP, trained staff, or trained resident</td>
<td>HEPA Vacuum for $250-$500</td>
<td>Vacuuming is not reliable as an exclusive control method.</td>
<td>PMPs, staff, and residents should use a vacuum to remove bed bugs during inspections and unit preparation.</td>
</tr>
<tr>
<td>Steam</td>
<td>PMP or trained staff</td>
<td>$500-$1500</td>
<td>Steam wand must be moved at a rate that heats the area to a lethal temperature.</td>
<td>Use with other methods such as insecticidal dust for voids that steam cannot penetrate. Mattresses and box springs must be dry prior to encasement.</td>
</tr>
<tr>
<td>Thermal Remediation Using Ambient Heat</td>
<td>PMP or trained staff</td>
<td>$800-$2,000 for an apartment.</td>
<td>Lethal temperatures must penetrate all items for the treatment to kill all stages of bed bugs.</td>
<td>Heat treatment is a good option for cluttered homes where preparation is a struggle.</td>
</tr>
<tr>
<td>Bed Bug Detecting Canine</td>
<td>PMP</td>
<td>$10,000 to purchase, $1,300 per team per day</td>
<td>Dogs are effective and efficient for large-scale (multi-unit) inspections.</td>
<td>Use with visual inspection. Treat in areas where the dog alerts.</td>
</tr>
<tr>
<td>Pesticides</td>
<td>PMP</td>
<td>Varies by product.</td>
<td>Most pesticides available to consumers are not effective. Your PMP should consider the residual and ovicidal properties of each product before selecting it.</td>
<td>Pesticides are used as needed in combination with other treatment methods.</td>
</tr>
</tbody>
</table>

Why should landlords, property owners and property managers care about bed bugs?

Bed bug infestations can be hard to manage and treat, especially when allowed to run rampant. Some apartment complexes have had pest management expenses go from $30,000 to over $100,000 in a single year and have had to hire 3 or 4 pest management companies because none were able to control the bed bug infestation. Because of this, some complexes have even closed or been sold.

However, this is avoidable. By following some of the recommended strategies in this booklet and working with a qualified pest management professional, you can prevent and manage bed bugs. One of the main reasons, some apartment complexes have had so many difficulties is because the leadership treated the complex unit by unit instead of taking a more comprehensive approach and using integrated pest management techniques. Also, some landlords charge tenants for bed bug control measures, which often causes tenants to stop reporting infestations. This can lead to larger infestations and multiple occupants with bed bug infestations. However, by creating a bed bug action plan, training staff and educating tenants, and monitoring you can prevent and control bed bug infestations.

**BED BUGS ARE HERE TO STAY.**

Adapted from Virginia Tech Department of Entomology
**Bed Bug Action Plan**

Property managers and owners should have a bed bug action plan that includes:

- Preventing infestations
- Staff training
- Tenant responsibilities
- Recordkeeping and responding to complaints
- Controlling infestations
- Disposing of infested furniture

**Prevention**

- Provide tenants with information about bed bugs. See other bed bug guide and a copy of your action plan.
- Ask tenants to avoid bringing bed frames, mattresses, box springs or upholstered furniture found on the street or dumpster into their unit.
- Seal and caulk cracks, crevices, and any loose tiles between dwelling units.
- Discuss monitoring with your pest management professional (PMP).
- Encourage tenants and staff to report bed bugs as soon as they know of a problem.

**Hiring a pest management professional**

**To choose a good professional...**

- Find a company through dependable referrals, directories, professional associations and check to make sure they are licensed at www.iowaagriculture.gov/pesticides.asp, or call 515-281-5321.
- Interview several companies before choosing. Ask about their training, if they are nationally certified, and their approach to controlling bed bugs. Make sure to ask if they use integrated pest management services like vacuum cleaning, steaming, and other mechanical approaches to remove and kill bed bugs.
- Agree on a service plan and its cost. Know what you and the company are responsible for.

**A good company will...**

- Inspect your property before giving you a price quote or beginning any pesticide application.
- Give you a written inspection report, and an action plan of how to prepare for treatment and prevent further infestation.
- Base quotes on inspection findings, not flat fees. The cheapest services are rarely the best.
- Visit often until the job is done and make referrals for repairs that need to be done.
- Employ qualified, well-trained pest management professionals.
- Ask if children or pets are present and manage the use of pesticides accordingly.
Pre-Treatment Recommendations

- Once an infestation is confirmed, notify tenants, and inspect all units adjacent, above and below every apartment found to have bed bugs.

- Consult with a pest management professional to treat for bed bugs. Be wary of companies that make unrealistic claims that bed bugs can be controlled with one visit. See pages 9 & 10 for hiring a PMP and treatment options.

- Inform tenants of all pest management company preparation requirements in writing.

- Help tenants if they cannot move furniture themselves or need help to get rid of clutter.

- Do not remove anything, except for laundry in plastic bags, from the room before treatment and inspection by the pest management professional.

- Give at least 72 hours of advance notice of the planned use of pesticides. Provide tenants with copies of the labels and safety data sheets. Make sure tenants are aware of any temporary relocation needed and follow the label instructions.

- Give reasonable time (minimum 72 hours) for tenant preparation.

- Check the room the day before treatment to ensure it is properly prepared and notify tenant if more preparation is needed.

- Schedule follow up treatments.

- An infestation of more than one unit in your building will require a coordinated, building-wide control effort.

Prevention continued

- Inspect upon vacancy and if necessary treat units to ensure they have no bed bugs or other pests before renting. Work with your PMP to use integrated pest management tools.

- Fix any clutter issues in common areas.

- Remove carpeting if possible.

- Follow PMP treatment recommendations.

Training Recommendations

Property managers should ensure that staff are trained on bed bug identification, surveillance, prevention, and control methods used by pest management professionals. A good training curriculum includes:

- Identification of bed bugs, with a comparison to other pests

- How to collect samples or digital photos and submit them to ISU extension or your PMP.

- Description of their lifecycle

- Prevention and control measures for eradication

- Inspection procedures

- Reporting and referral procedures

- Encouraging staff to be proactive

For bed bug awareness training, please contact Linn County Public Health at (319)-892-6000 or health@linncounty.org.
Tenant Recommendations

Tenants can be extremely helpful in preventing and controlling bed bugs. But to do so they must know how to prevent, monitor, and inspect for bed bugs. Landlords should tell tenants their expectations and give tenants a copy of them in writing. Reasonable expectations might include:

- Allow access to evaluate for bed bugs when complaints have been received, and written notice has been given.
- Notify of a suspected infestation as described in the landlord or property manager’s action plan.
- Cooperate with preparation instructions given by the property manager or PMP. Landlords and property managers should give tenants at least 72 hours for preparation.
- Attend a landlord’s education sessions or read handouts to learn about bed bugs and how to properly identify them. For bed bug literature, please visit www.calcopublichealth.com or call (712)297-8323.
- Never bring bed frames, mattresses, box springs or upholstered furniture found on the street into the apartment complex.
- Keep living area clean and clutter free.
- When traveling, keep suitcases off the floor and bed, and inspect them before leaving. If the tenant suspects they have been around bed bugs when traveling, immediately washing and drying clothing on hot settings or storing it in a sealed plastic bag until able to do so.

Recordkeeping

Owners and operators should keep records of:

- Confirmed infestations
- Complaints and management responses
- Services and recommendations from the PMP
- Follow up by staff on PMP recommendations

Responding to bed bug complaints

- Create a written process for complaints from both staff and tenants. Include the process for responding and for contracting a pest management professional.
- Respond to the complaint within 48 hours with a plan of action and after 72 hours complete your plan of action.
- A plan of action should include confirming that the pest is a bed bug either by contacting a pest management professional, or by sending samples to ISU extension.

Adapted from Polk County Health Department