


Bed Bugs in the home and on their way to school – how can IPM help?

Allison Taisey, BCE
The Northeastern IPM Center
Cornell University



stoppests@cornell.edu [@StopPests](https://twitter.com/StopPests) facebook.com/StopPests




www.StopPests.org

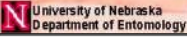
stoppests@cornell.edu [@StopPests](https://twitter.com/StopPests) facebook.com/StopPests

www.stoppests.org/request

2

You are a cockroach.



 University of Nebraska
Department of Entomology

3



Pest management must include managing introductions



5

Find pests that get in before an infestation grows




and...

6

Take action

Use more than one control method
 Methods must be economical and pose the least possible risk to people, property, and the environment



7

Integrated Pest Management (IPM)

1. Inspect and monitor
2. Identify
3. Determine the scale of response
4. Respond
 - Non-chemical control
 - Changing people's behavior
 - Chemical control
 - Biological control
5. Evaluate effectiveness

8



Google: [Pest Prevention by Design](#)

Authoritative guidelines for designing pests out of structures




9

Questions?

10

Bed bug behavior

- Most active at night
- Hide in cracks and crevices, often in groups
- Cannot fly, jump, or burrow into skin... they crawl
- Hitchhike on coats, bags, furniture, wheelchairs...




Bed bug crawling into a screw hole to hide

11

Where bed bugs live

Beds, sofas, bedside tables, recliners, picture frames...



● = Hot Spot

Areas at-risk for introduction and infestation

- Introduction is likely where people
 - frequently travel
 - set down personal belongings
 - sit or lay down for long periods of time
- Infestation is likely where bed bugs can
 - Crawl (upholstered furniture or bedding)
 - Feed on a person for 5 minutes without being detected
 - Hide in cracks or folds

13

Areas prone to introduction vs. infestation

Area	Introduction?	Infestation?

●●● High
 ●● Medium
 ● Low

14

Integrated Pest Management (IPM)

1. Inspect and monitor
2. Identify
3. Determine the scale of response
4. Respond
 - Non-chemical control
 - Changing people's behavior
 - Chemical control
 - Biological control
5. Evaluate effectiveness

15


Interview

- Find out where people sleep
- Find out where people put the things that come in/out of the unit
- Note financial, physical, or cognitive limitations that could influence treatment
- Use a flashlight and look around sleeping areas and areas where introduction is likely

16

Inspection


- ✦ Always use a flashlight
- ✦ If bed bugs are found, inspect all adjacent units
- ✦ Two types
 - ✦ Visual
 - ✦ Scent detecting canine



17

Monitoring

- Trap and kill bed bugs
- Determine how bad the infestation is
- Two types
 - Passive
 - Active



Passive, moat-style interceptor

18

Include the resident in the plan

- Encourage patience and cooperation
- Ask residents to NOT: fog/bomb, use their own pesticides, throw away items, change too much until a professional arrives to inspect and treat
- Give them control options: vacuum with a pantyhose, clothes dryer for 30 minutes on high heat, encasement and interceptors, isolate belongings in plastic totes/bags
- Give them an idea of the treatment timeline

19

Prevent introduction and spread: residents

- Keep coats, backpacks, purses, and bags off beds, recliners, and sofas at home and while out
- Inspect used furniture carefully before bringing it home—avoid it if possible
- Look for signs when sleeping away from home

20

Advice for staff, health aides, and contractors

- In units:
 - Avoid sitting or placing items on potentially infested surfaces
 - Wear a protective layer when moving infested items
- In the main office/community areas:
 - Replace fabric-covered furniture that has many crevices with plastic or metal items
 - Have residents set their belongings in plastic totes during meetings

21

Treatment options

<ul style="list-style-type: none"> • Pesticides <ul style="list-style-type: none"> • Spray • Dust • Fumigation • Heat <ul style="list-style-type: none"> • Dryer • Steam • Container • Whole unit 	<ul style="list-style-type: none"> • Freezing <ul style="list-style-type: none"> • Liquid CO₂ • Chest freezer • Vacuuming • Isolation <ul style="list-style-type: none"> • Encasements • Clear bags • Closed plastic containers • Interception devices
--	--

22

Questions?

<p>In-house options (minimum training)</p> <ul style="list-style-type: none"> • Encasement • Monitoring • Quick (15 min) visual inspection • Steam • Clothes Dryer • Vacuum • Heat chamber (FL model) • Diatomaceous Earth (APPLICATOR'S LICENSE) • Resident training/support 	<p>Leave it to the experts</p> <ul style="list-style-type: none"> • Canine inspection • Whole-unit heat treatment • Pesticide application • Thorough inspection • Active Monitoring
---	---

23

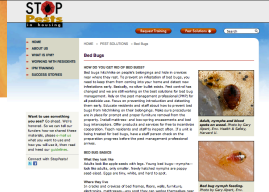
IPM resources


Websites

- The Northeastern IPM Center's IPM in Multifamily Housing website and blog: www.stoppests.org
- The National Pesticide Information Center: <http://npic.orst.edu/>
- Insects in the City: <http://citybugs.tamu.edu/>

Resource

- Pest Prevention by Design Guidelines




www.StopPests.org

