Ohio's Number One ...
In Bed Bugs

Dr. Susan C. Jones
Professor of Entomology

The Most Bed Bug-Infested Cities in the U.S.

1. Chicago (+1)
2. Detroit (+1)
3. Los Angeles (+2)
4. Denver
5. Cincinnati (+4)
6. Columbus, Ohio
7. Washington, D.C. (+1)
8. Cleveland/ Akron/ Canton (+6)
9. Dallas/ Ft. Worth (+2)
10. New York (-1)
11. Dayton, Ohio (+3)
12. Richmond/ Petersburg, Va. (+2)
13. Seattle/ Tacoma (+4)
14. San Francisco/ Oakland/ San Jose (+4)
15. Raleigh/ Durham/ Fayetteville, N.C. (+4)

Cincinnati ranks No. 1 in list of calls to an extermination company as top bedbug infested cities

July 2013
Worldwide Resurgence of Bed Bugs Since Late 1990s

Aumenta la presencia de chinches en Barcelona
Las empresas de control de plagas descartan su desaparición y han incrementado las actuaciones contra estos insectos en

**SPAIN**

**ENGLAND**

**AUSTRALIA**

Bedbugs invade London’s

LONDON’s sleeping habits are among a string of residential properties throughout the country which are being targeted by bedbugs. The numbers of bloodsucking bugs have increased tenfold in a decade and pest control experts have commissioned a study to identify the cause of the invasion.

**THE TIMES**

Archive Article

Please enjoy this article from The Times

From The Times

April 14, 2004

Bedbugs eat into tourism

A study of the ‘bed bug’ has taken place in Argentina’s southernmost town, which is being targeted by the bedbugs due to its proximity to the US. The Bedbugs, which are known to be a major pest, have been found in the town’s hotels, and in this town they can thrive in the warmer weather. They feed on blood, which is rich in proteins and other nutrients, and can reproduce rapidly. They can be a serious problem in the warmer months, and can spread to other areas if not controlled.

**CANADA**

Montréal: épidémie de punaises de lit confirmée
1940s
“Live Better Through Chemistry”

DDT and other synthetic insecticides with long-lasting residual were very effective in controlling bed bugs.

late 1940s – early 1950s
Bed bugs developed resistance to DDT
Some Reasons For the Resurgence of Bed Bugs

- International travel and commerce
- Housing with high tenant turnover
- Pesticide use has changed
  - Pesticide bans
  - Failure to re-register insecticides
  - Baits to control ants & cockroaches
- Insecticide resistance

<table>
<thead>
<tr>
<th>Active Ingredient</th>
<th>Product Name(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imidacloprid + β-cyfluthrin</td>
<td>Temprid® SC</td>
</tr>
<tr>
<td>(neonicotinoid + pyrethroid)</td>
<td></td>
</tr>
<tr>
<td>Chlorfenapyr</td>
<td>Phantom® SC</td>
</tr>
<tr>
<td>(halogenated pyrrole)</td>
<td>Phantom® PI</td>
</tr>
<tr>
<td>Acetamiprid + bifenthrin</td>
<td>Transport® Mikron</td>
</tr>
<tr>
<td>(neonicotinoid + pyrethroid)</td>
<td>Transport® GHP</td>
</tr>
<tr>
<td>Thiamethoxam + λ-cyhalothrin</td>
<td>Tandem®</td>
</tr>
<tr>
<td>(neonicotinoid + pyrethroid)</td>
<td></td>
</tr>
<tr>
<td>Dinotefuran + diatomaceous earth</td>
<td>Prescription Treatment</td>
</tr>
<tr>
<td>(neonicotinoid + silica dioxide)</td>
<td>Alpine® Dust</td>
</tr>
<tr>
<td></td>
<td>Alpine® PI</td>
</tr>
</tbody>
</table>
INTEGRATED PEST MANAGEMENT (IPM) FOR BED BUGS:

Correctly identify the pest
+ Conduct a thorough inspection
+ Use sanitation measures
+ Use non-chemical measures
+ Apply insecticides to targeted sites

The Common Bed Bug
(Cimex lectularius)
Hemiptera: Cimicidae

- Insects (true bugs)
- Temporary external parasites
- Feed only on blood
- Prefer to feed on humans
- Alternate hosts: rodents, bats, birds, pets (cats, dogs, etc.)

Not caused by bad housekeeping!!
BED BUGS CAN HAPPEN TO ANYONE!
LIFE CYCLE OF THE BED BUG
(Cimex lectularius)

Note: These images depict bugs with a partly digested blood meal.

Shape and Size

- Beak-like mouthparts
- Oval shaped body
- Body flattened (unfed) to swollen (recently fed)
- Adults: ~1/4 to 3/8 inch long
- Youngest nymphs (immature bugs) are tiny (<<1/10 inch long)
IDENTIFICATION SERVICES

Ohio State University Pest Diagnostic Clinic

- Fee for identification services ($20 per insect sample)
- ID wide variety of insects, arthropods, plant diseases, etc.
- Online submission form: http://ppdc.osu.edu

614-292-5006
Some Basics of Bed Bug Management

- Early detection and treatment are very important.
- Bed bug control typically is much faster and less expensive when the infestation is detected early.

LIFE CYCLE OF THE BED BUG (Cimex lectularius)

- Adult (male & female): ~0.26 inch (6.5 mm) long. Takes repeated blood meals; life span ~1 to 1½ yrs.
- 1st stage nymph: ~0.06 inch (1.5 mm) long. Takes a blood meal then molts.
- 2nd stage nymph: ~0.08 inch (2 mm) long. Takes a blood meal.
- 3rd stage nymph: ~0.1 inch (2.5 mm) long. Takes a blood meal then molts.
- 4th stage nymph: ~0.12 inch (3 mm) long. Takes a blood meal then molts.
- 5th stage nymph: ~0.18 inch (4.5 mm) long. Takes a blood meal then molts.
- Egg: ~0.04 inch (1 mm) long. Glued in place.

Total developmental time (egg to adult):
- 21 days @ 86°F
- 120 days @ 65°F

Note: These images depict bugs with a partly digested blood meal.
Life History Characteristics Show That Bed Bug Numbers Can Quickly Increase … (Early Detection and Treatment are Very Important)

- **Eggs**
  - Glued in place
  - 1 – 12 eggs / day / female
  - A single female can produce ~150 eggs
  - Hatch in 6 – 17 days

- **Nymphs (immature bugs)**
  - Five nymphal stages
  - Require a blood meal in order to grow

- **Adults (males & females)**
  - Require repeated blood meals
  - Can live 12 – 18 months
  - Can survive months of starvation

BED BUG HABITS

- Cannot fly
- Can walk very fast
- Typically hide during the day in dark, protected sites (esp. cracks & crevices)
- Prefer fabric, wood, and paper surfaces
- Can cling tightly to surfaces
Bed bugs are very good hitchhikers!

Bed bugs can be moved from one place to another by hiding in:

- luggage
- furniture
- bedding
- backpacks, purses, briefcases
- clothing
- ...

Bed Bugs Hiding in Luggage
--Bed Bug Hitchhikers—
in walker & wheelchair

Photos courtesy of General Pest Control Co.

How do bed bugs travel?

• Hitchhiking
• Walking
  • down a hallway after dropping off an item
  • from an infested room to new territory
  • from one apartment to another via pipes, electrical wires, cables, …
What shouldn’t you do for a bed bug problem?

Typically, you shouldn’t dispose of furniture.

- Bed bugs will fall off the furniture as you are moving it, hence spreading the problem.
- Infested furniture usually can be treated.
- Bed bugs can quickly infest replacement furniture.
- Items placed on the curb often are picked up and reused, thereby spreading bed bugs to other households.

In multi-family housing, bed bugs readily spread to units that are adjacent, below, and above the infested unit.
Bed Bug Feeding Habits

- Typically feed at night
- Locate their host using cues such as carbon dioxide, heat, and odor

Clinical Manifestations of Bed Bug Bites

- common distribution of skin lesions
- atypical bullous lesions
- urticaria

Confirmation is based on finding bed bug evidence.
Health Effects from Bed Bugs

- Skin reactions in 7 of 10 people
  - Redness
  - Welts
  - Itching
- Secondary bacterial infections
- Anemia
- Asthma
- Anaphylactic shock
- Psychological effects
- Sleeplessness
- Agitation
- Anxiety …

August 2010

CDC & EPA Joint Statement

Bed bugs are a pest of significant public health importance!

http://www.cdc.gov/nceh/ehs/Publications/Bed_Bugs_CDC-EPA_Statement.htm
http://www.epa.gov/pesticides/bedbugs/
Bed bugs also are responsible for severe economic hardships.

Recognize the telltale signs of bed bugs!

- Black fecal spots
- Shed skins & eggshells
- Live bed bugs (nymphs & adults)
- Blood stains from crushed bugs
- Welts on exposed skin
- Distinctive “buggy” odor (in severe infestations)
Bed Bugs Behind A Hanging Picture

It’s important to treat all harborage sites!

Tell-tale Signs of Bed Bugs in Furniture

It’s important to treat all harborage sites!
Tell-tale Signs of Bed Bugs Behind Baseboards

It’s important to treat all harborage sites!

Tell-tale Signs of Bed Bugs in Electrical Outlets

It’s important to treat all harborage sites!
Bed Bug Detection

--Passive Monitoring Devices--

Sticky traps typically are not a very effective monitoring tool for bed bugs.
--Passive Monitoring Devices--

**Bed Bug Interceptors**

- Positioned under furniture legs
- Furniture must be kept in use—bugs are attracted to host’s CO$_2$
- Pitfall trap—bed bugs climb in and cannot escape*  
  - *Inner walls of ClimbUps must be kept lubricated with talcum powder or bugs can escape
- Eliminate alternative ways for bugs to access furniture (don’t let bugs bypass interceptors)
  - Keep furniture several inches away from walls
  - Don’t let bed linens, dust ruffle, & bedding contact the floor or walls

--Bed Bug Inspection--

**Bed Bug-Sniffing Dogs**

- Dog and handler should be specially trained and certified
- Dog requires daily training, too
- The dog’s handler is important
- Can have high accuracy
- Enable rapid inspections
- Expensive
- Much variability among canine detection firms.
- Can be a useful tool in large-scale inspections.

<table>
<thead>
<tr>
<th>Canine team performance (7 firms; 24 apts.)</th>
<th>Average</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspection time</td>
<td>150 min</td>
<td>100-250 min.</td>
</tr>
<tr>
<td>Cost</td>
<td>$750</td>
<td>$500-1,000</td>
</tr>
<tr>
<td>Detection rate</td>
<td>43%</td>
<td>11-83%</td>
</tr>
<tr>
<td>False positive rate (signaling bed bugs that weren't there)</td>
<td>0-38%</td>
<td></td>
</tr>
</tbody>
</table>

Verifi™ Bed Bug Detector

Components:
- CO₂ BOOSTER PACK (lasts for 24 hours)
- LURE (lasts for 90 days)
- Pheromone chamber (mimics bed bug aggregation scent)
- Kairomone chamber (mimics host odor)
- PITFALL
- HARBORAGE
- ADHESIVE

http://www.fmcprosolutions.com/BedBugs/PropertyManager/Home.aspx
All Stages Of Bed Bugs Were Captured In The Verifi™ Detector Pitfall.

Comparison of Erroneous Results with Canine Team, Dry Ice Trap, and Verifi™ Detector

<table>
<thead>
<tr>
<th>Detection Method</th>
<th>False Positive</th>
<th>False Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canine Team</td>
<td>Dog 1</td>
<td>Dog 2</td>
</tr>
<tr>
<td>Dry Ice Trap</td>
<td>False Positive</td>
<td>False Negative</td>
</tr>
<tr>
<td>Verifi Detector</td>
<td>False Positive</td>
<td>False Negative</td>
</tr>
</tbody>
</table>

Number of Errors

0 1 2 3

Dog 1  Dog 2  Dog 1  Dog 2  False Positive  False Negative  False Positive  False Negative  False Positive  False Negative

Dr. Susan C. Jones
OSU Extension Entomology
— OSU Research Study —

Verifi™ Long-Term Monitoring Results

<table>
<thead>
<tr>
<th>Date</th>
<th>High-rise apt. building</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rental office</td>
</tr>
<tr>
<td>2/14/2013</td>
<td>Install</td>
</tr>
<tr>
<td>2/21/2013</td>
<td>0</td>
</tr>
<tr>
<td>2/28/2013</td>
<td>2 bed bugs</td>
</tr>
<tr>
<td>3/13/2013</td>
<td>0</td>
</tr>
<tr>
<td>5/3/2013</td>
<td>0</td>
</tr>
<tr>
<td>6/25/2013a</td>
<td>0</td>
</tr>
<tr>
<td>7/2/2013</td>
<td>0</td>
</tr>
<tr>
<td>10/22/2013a</td>
<td>0</td>
</tr>
</tbody>
</table>

*Verifi lure components replaced in all detectors; wiped free of debris.

INTEGRATED PEST MANAGEMENT (IPM) FOR BED BUGS:

Correctly identify the pest
+
Conduct a thorough inspection
+
Use sanitation measures
+
Use non-chemical measures
+
Apply insecticides to targeted sites
Sanitation Measures

(Typically are used to supplement additional treatment measures.)

Some measures to help reduce the number of bed bugs:

Launder bedding, clothing, etc.!

- Wash in hot water (>120°F, [50°C])
- Keep dry items in drier on medium to hot setting for >30 minutes.

It is important to keep disinfected items bagged while bed bug eradication efforts are on-going at your residence.
Steaming

- Commercial steam unit preferable
- Dry steam preferable (less moisture)
- Surface temperature should be ~176°F (80°C)
- Steam immediately kills bed bugs & eggs
- Requires working slowly and thoroughly
- Steam can penetrate many fabrics & padding
  - Some materials too thick for heat transfer
- Prolonged drying time (use fan, dehumidifier, natural ventilation)
- No residual protection
Some measures to help reduce the number of bed bugs:

Install encasements

- Be sure to encase both the mattress & box springs
- Specialized encasements trap bed bugs and eggs
  - May take 1 year to “starve bugs out”
  - Bug activity is restricted to the exterior of the encasement, where bugs can be more easily treated
- Be careful not to tear or damage encasements and make sure the zipper stays closed
- Some exs: Clean Rest, Mattress Safe, National Allergy Supply, Protect-A-Bed, ...

Contact a professional pest control company to treat for bed bugs

- ODA web site lists licensed pest mgt. companies and applicators
  - OH Dept. of Agriculture
  - Pesticide Regulation Section
  - 614-728-6987; 800-282-1955
  - http://www.agri.ohio.gov

Dr. Susan C. Jones
OSU Extension Entomology
Once you’ve made sure they are properly licensed to apply pesticides:

- It’s advisable to obtain at least 3 estimates.
- Check for satisfied customer references that relate to bed bug control.
- Recognize that bed bug control typically takes several insecticide treatments.

Contact a professional pest control company to treat for bed bugs

Treatment Options

- Heat treatment (whole structure, container)
- Cold (usefulness is limited)
- Insecticides
  - Residual products (dust, liquid, aerosols)
  - Fumigation (sulfuryl fluoride)
Whole Room Heat Treatment

Cold Treatment
Some Basics of Bed Bug Management Using Insecticides

- There is no single “magic bullet”.
- A residual insecticide is necessary.
- Control of a bed bug infestation typically takes several treatments.
- It is important to use several different formulations, and often, several different insecticides.
- Don’t keep using the same insecticide (rotate insecticide use)

<table>
<thead>
<tr>
<th>Active Ingredient (insecticide class)</th>
<th>Product Name(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imidacloprid + β-cyfluthrin (neonicotinoid + pyrethroid)</td>
<td>Temprid® SC</td>
</tr>
<tr>
<td>Chiorfenapyr (halogenated pyrrole)</td>
<td>Phantom® SC Phantom® PI</td>
</tr>
<tr>
<td>Acetamiprid + bifenthrin (neonicotinoid + pyrethroid)</td>
<td>Transport® Mikron Transport® GHP</td>
</tr>
<tr>
<td>Thiamethoxam + λ-cyhalothrin (neonicotinoid + pyrethroid)</td>
<td>Tandem®</td>
</tr>
<tr>
<td>Dinotefuran + diatomaceous earth (neonicotinoid + silica dioxide)</td>
<td>Prescription Treatment Alpine® Dust Alpine® PI</td>
</tr>
</tbody>
</table>
Biopesticide (neem seed oil) for use against bed bugs (and eggs) & cellar spiders
EPA registered Cirkil in May 2012
Low mammalian toxicity (‘Caution’ signal word)
Label allows broadcast application to many sites including carpet and bedding

- Bed bug numbers were greatly impacted by first Cirkil treatment, but large numbers of bugs were removed simultaneously in Climbups + Verifis.
- Bed bugs appeared to be eliminated after 4 Cirkil treatments. Canine team alerts were inconclusive.
- Grand total of 146 bed bugs were detected during a 3+ month treatment period. Detection devices are an extremely useful tool to assess treatment success.

<table>
<thead>
<tr>
<th>Date</th>
<th>1st Treatment</th>
<th>2nd Treatment</th>
<th>3rd Treatment</th>
<th>4th Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-24-12</td>
<td>3.5 gal CX + 0.17 gal RTU</td>
<td>1.63 gal CX + 0.13 gal RTU</td>
<td>5 gal CX + 0.38 gal RTU</td>
<td>5 gal CX + 0.58 gal RTU</td>
</tr>
<tr>
<td>11-07-12</td>
<td>10</td>
<td>14</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>11-21-12</td>
<td>10</td>
<td>5</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>01-18-13</td>
<td>10</td>
<td>14</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

Total volume applied: 15.13 gal (57.25 l) CX + 1.26 gal (4.74 l) RTU
### Some Insecticides Registered For Use Against Bed Bugs

<table>
<thead>
<tr>
<th>Active Ingredient</th>
<th>Product Name</th>
<th>Miscellaneous Label Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diatomaceous earth (=silicon dioxide)</td>
<td>Natural Guard Crawling Insect Control</td>
<td>- Crack &amp; crevice applications</td>
</tr>
<tr>
<td></td>
<td>Safer® Brand Ant &amp; Crawling Insect Killer</td>
<td>- Slow-acting</td>
</tr>
<tr>
<td></td>
<td>MotherEarth™ D</td>
<td>- Residual (long-lasting) activity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Dusts should be applied in thin layers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- DO NOT allow product to get wet or it will lose its effectiveness</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Caution: Avoid inhalation; wear a dust mask during application</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Pool grade DE should NEVER be used for pest control. Pool grade DE contains crystalline silica and can be a respiratory hazard.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Mattresses mentioned on label</td>
</tr>
</tbody>
</table>

---

**— OSU Research Study —**

### Efficacy of Diatomaceous Earth Against Bed Bugs

- Water dramatically reduces efficacy of DE, even once it dries!
- Do not allow DE applications to become damp!
BUYER BEWARE:

Grocery store insect sprays won’t eliminate a bed bug infestation!

- Must be sprayed directly on the bed bugs (‘kills on contact’)
- Most bugs are hiding and WILL NOT be killed
- Little or no residual activity (the chemical breaks down quickly)

DO NOT use “bug bombs” against bed bugs!

- “Bug Bombs” don’t work
- Few bugs will be killed!
- “Bug Bombs” can cause bed bugs to scatter!!!

“Bug Bombs” may worsen the bed bug problem!!
• **Hotshot® Bedbug and Flea Fogger**
  - Pyrethrins 0.05%, Esfenvalerate 0.1%, Piperonyl Butoxide 0.1% (synergist), MGK® 264 0.167% (synergist), Nylar 0.1% (IGR)

• **Spectracide® Bug Stop® Indoor Fogger**
  - Bed bugs are not listed on label
  - Tetramethrin 0.1%, Cypermethrin 0.6%

• **Eliminator® Indoor Fogger**
  - Bed bugs are not listed on label
  - Cypermethrin 0.515%

“Kills on contact”
“Effective long-term control”

“Kills on contact”
“ Kills flying, crawling, and biting insects”

“Kills on contact”
“Kills bugs you see, kills bugs you don’t see”
“Kills biting and crawling insects (as listed)”

---

**Efficacy of Commercially Available Ultrasound Pest Repellent Devices to Affect Behavior of Bed Bugs (Hemiptera: Cimicidae)**

K. M. Yturralde and R. W. Hofstetter

School of Forestry, Northern Arizona University, Flagstaff, AZ 86011

**Abstract**

Little research has been done on bed bugs, Cimex lectularius L. (Hemiptera: Cimicidae), although many insects are known to have behaviors that are deterrents to bed bugs. Female bed bugs are known to secrete sound waves as a deterrent and as a chemical to attract bed bugs. Female bed bugs also secrete an ultrasound repellent. When bed bugs are not present, the bed bug sound is greater. When bed bugs are present, the bed bug sound is greater. When bed bugs are not present, the bed bug sound is greater. When bed bugs are present, the bed bug sound is greater. When bed bugs are not present, the bed bug sound is greater. When bed bugs are present, the bed bug sound is greater. When bed bugs are not present, the bed bug sound is greater. When bed bugs are present, the bed bug sound is greater.

**Key Words**

bed bugs

cockroaches

cockroach feces

cockroach shed skin

bed bugs nearby
Words of caution regarding over-the-counter ‘natural products’ for bed bug control:

- Exempt from Environmental Protection Agency (EPA) registration
- EPA requires no efficacy data
- Claims often based on “satisfied customers”—be sure to ask for their research data and evaluate it carefully
- Botanical (plant based) products often have a strong odor
- Botanical products often have limited, if any, residual activity

25(b) Natural Products (exempt from EPA registration)

FTC takes action

The FTC complaint charges that the Cedarcide defendants make:
- false claims that scientific studies prove Best Yet! is effective at stopping and preventing bed bug infestations, and that it is more effective than synthetic pesticides at doing so;
- a false claim that the Environmental Protection Agency has warned consumers to avoid all synthetic pesticides for treating bed bug infestations;
- false claims that Best Yet! was invented for the U.S. Army at the request of the U.S. Department of Agriculture, and that the USDA has acknowledged the product as the number one choice of bio-based pesticides.

The FTC complaint charges that the RMB Group defendants make unsupported claims that Rest Easy kills and repels bed bugs, and that a consumer can create a barrier against them by spraying the product around a bed.

http://ftc.gov/opa/2012/09/cedarcidermb.shtm
Rutgers Univ. Study: Natural Pesticides

By: Narinderpal Singh, Changlu Wang, and Richard Cooper

Researchers at Rutgers University tested nine commonly available biocides against a field strain of bed bugs.

In recent years, there has been a movement of "green pest management," focused on the use of natural and low-toxicity materials instead of conventional synthetic insecticides. The resurgence of bed bugs further bolstered enthusiasm for natural products. In particular, essential oil-based pesticides, referred to in this article as biocides, flourished in the consumer market.

Many natural pesticides qualify for exemption under section 25(b) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), where manufacturers are not required to provide efficacy data for registration. With lax regulation and a low cost of development, manufacturers can roll out new products quickly, making bold claims such as, "the best bed bug treatment you can get on the market today," or that a consumer can "create a barrier against bed bugs." One product promises "the same results delivered by pest control service without evacuation."

These products are rarely adopted by PMRs because until present, there has been no scientific data supporting such claims. Meanwhile, the public often falls victim to the lure of such grand claims coupled with other attractive claims, such as "safe for children and pets."

Recently, the Federal Trade Commission filed deceptive adver-
--Presentation Summary--

Bed Bug Basics

- Historical perspective
- Identification
- Bed bug habits
- Detection measures
- IPM strategies

For More Information

http://ohioline.osu.edu

OSU Extension Fact Sheets:

- HYG-2105 (Bed bugs)
- HYG-2105A (Bat bugs)
http://centralohiobedbugs.org

Presentations available for group trainings

Thank You!

Sleep tight,
and don’t let the ...
... well, you know the rest
BED BUG PREVENTION FOR TRAVELERS

Make it STANDARD PRACTICE to check for bed bugs in hotel/motel rooms!

Look for black spotting and other bb signs as you examine:
• mattress & box springs, especially seams
• underside of the bed skirt
• headboard and bed frame
• nightstand drawers, particularly inner and outer edges
• baseboards

DON’T STAY IN A ROOM THAT HAS BB SIGNS

BED BUG PREVENTION FOR TRAVELERS

Reduce the chances of getting bed bugs from hotel/motel rooms!

• Keep clothes in your zipped suitcase
  • Don’t keep clothes in hotel chest-of-drawers
  • OK to hang clothes in closet
• Don’t store your suitcase on the bed, floor, or upholstered furniture
• Keep your suitcase on the luggage rack (after first inspecting it for bb signs)
  • The bathroom (tub) is the best place to store items!