

Bed Bugs Are Back



CUYAHOGA COUNTY
BOARD OF HEALTH
YOUR TRUSTED SOURCE FOR PUBLIC HEALTH INFORMATION

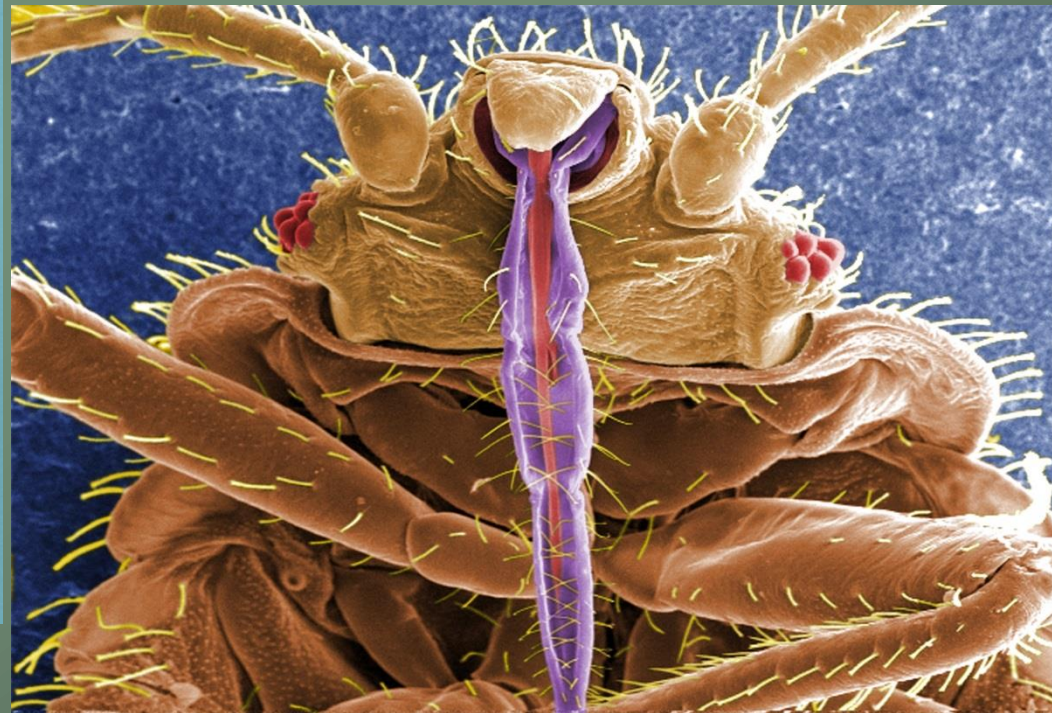


Bed Bug Education

- While education can be conducted by distributing educational materials and providing training, it can only be effective if it results in changes in behavior.
 - Ability to accurately identify bed bugs
 - Monitor for early detection (new & existing)
 - Where to go for more technical information
 - Open communication about an infestation
 - Leads to cooperatively solving a problem rather than assigning blame

Identification, Habits & Characteristics

- Adults 1/4 to 3/8" long
- Brown to reddish brown
- Oval shaped and flattened
- Beak-like mouthparts
- Wingless



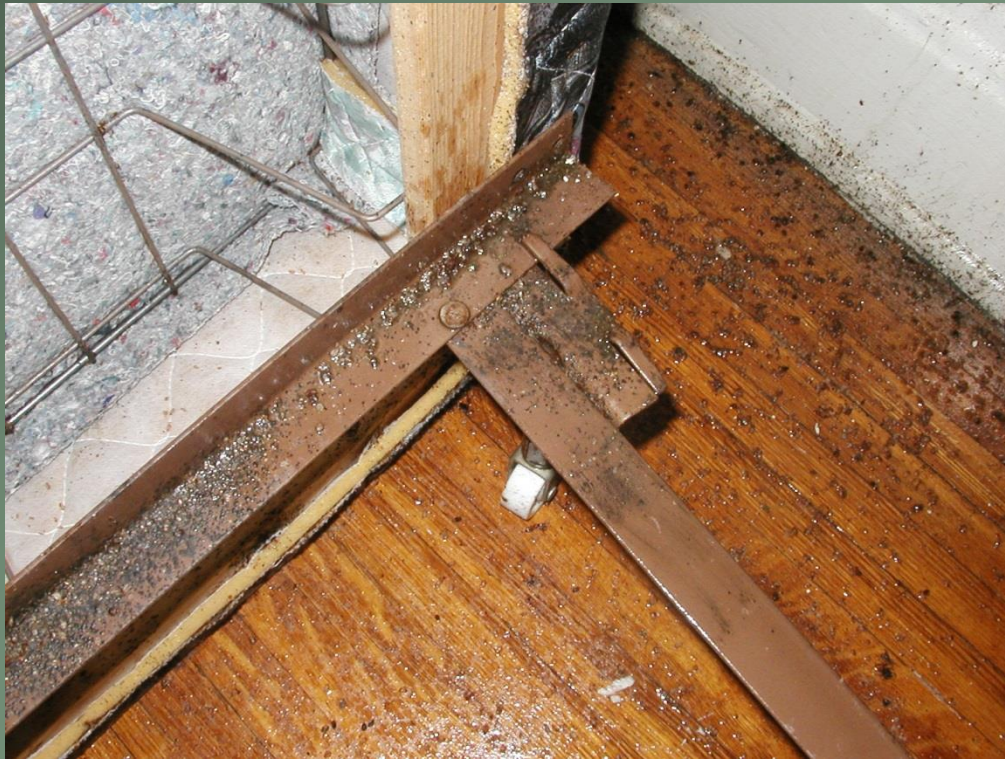
Identification, Habits & Characteristics

- Fast-moving
- Cannot fly or jump
- Cling tightly to surfaces
- Flattened- can easily fit in narrow cracks and crevices



Identification, Habits & Characteristics

- **Seek refuge during daylight in dark, protected areas**
 - In heavy infestations, you will see them during the day
- **Prefer dry fabric, wood, and paper surfaces**



Identification, Habits & Characteristics



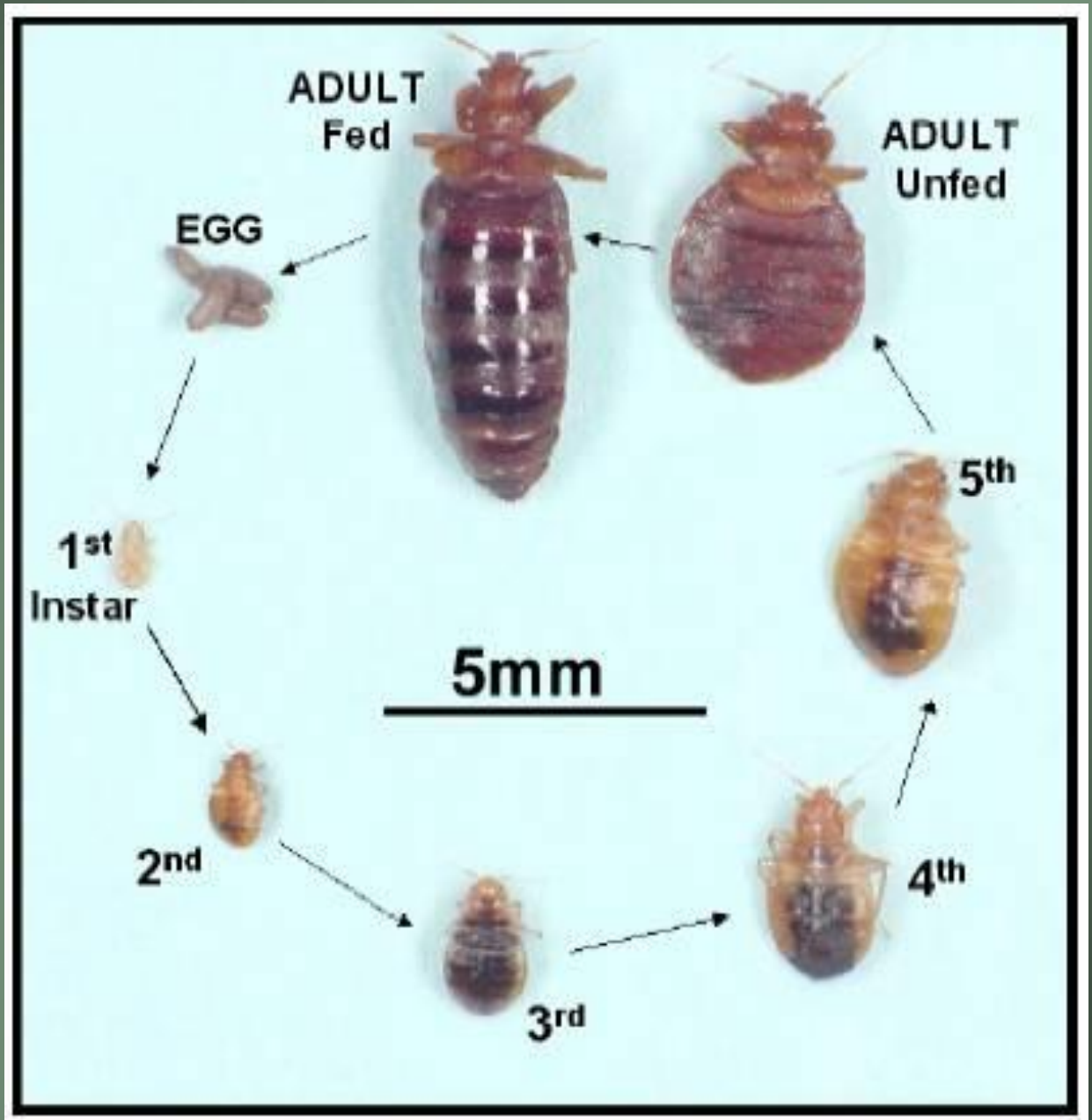


Identification, Habits & Characteristics

- **External parasites that feed on blood**
- **Humans are the preferred host**
However - also feed on birds, rodents, bats, pets
- **Feed during the night with peak activity occurring just before dawn**



Life Cycle



Life Cycle- Egg

- ❖ Female can lay 1-12 eggs per day
- ❖ Deposited on rough surfaces or in cracks and crevices
- ❖ Eggs are covered in a sticky epoxy-like substance
- ❖ Eggs hatch in 6-17 days



Photo Credit: James Kalisch, UNL Dept of Entomology



Bed bug life cycle: egg, nymph, and adult (courtesy of Dr. Mike Potter, University of Kentucky)



Life Cycle- Nymph

- ❖ 5 instar stages
- ❖ Require a blood meal to molt



❖ Before feeding



❖ After feeding

Life Cycle- Adult

- ❖ May live for 12-18 months – long lived for an insect
- ❖ Egg to adult in about 25 days under ideal (warm) conditions and available food source

**In a home:
development takes
about 7 weeks**



Blood Feeding

- ❖ **Attracted by carbon dioxide and body heat**
- ❖ **Feed for 3-10 minutes, then crawl away to hide and digest blood meal**
- ❖ **Typically feed at night, but not always**
- ❖ **Can go up to a year between feedings**
- ❖ **Reaction to the injected saliva – varies by the individual**
 - ❖ **Swelling**
 - ❖ **Rows of welts**
 - ❖ **Severe itching (hours to days)**

Bed Bug Bites



Public Health Importance

- No evidence that bed bugs transmit disease
- Can cause irritation and the risk of secondary infection
- Feed on limbs, trunk, and face – characteristic “bite line”
- Wheals/welts similar to mosquito bites or chigger bites - reaction to salivary substances
- May cause restless sleep, chronic sleep deprivation, emotional stress, depression, suicide
- Cost to individuals

Prevention

- ❖ Don't bring infested items into the home
- ❖ Inspect clothing and baggage of travelers
- ❖ Inspect secondhand beds, bedding and furniture



Inspection tips: recognize common signs

- ❖ Blood stains from crushed bugs
- ❖ Fecal spots
- ❖ Shed skins & eggshells
- ❖ Offensive, sweet, musty odor



Inspection



Cracks and Crevices

- Mattress, box springs, bed frame
- Window and door frames
- Baseboards, carpet tack boards
- Radio, phone, TV, computers
- Wall hangings
- Drapery pleats
- Loosened wallpaper



Folds & Seams of Furniture



Folds & Seams of Furniture



Furniture



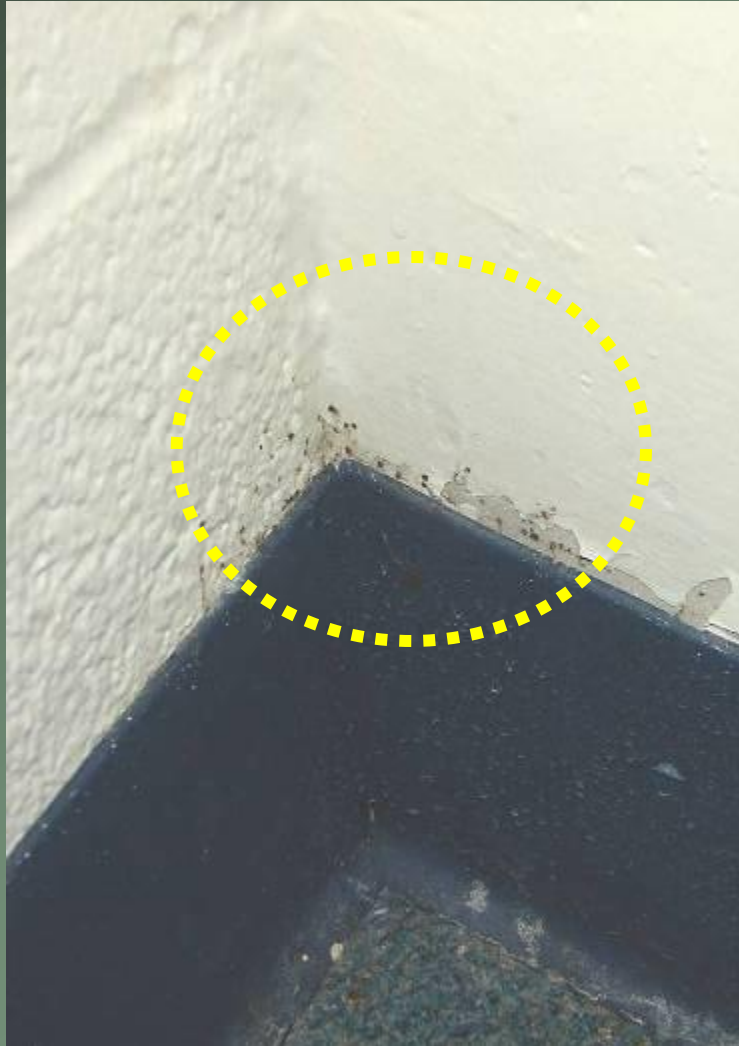
Cracks & Crevices



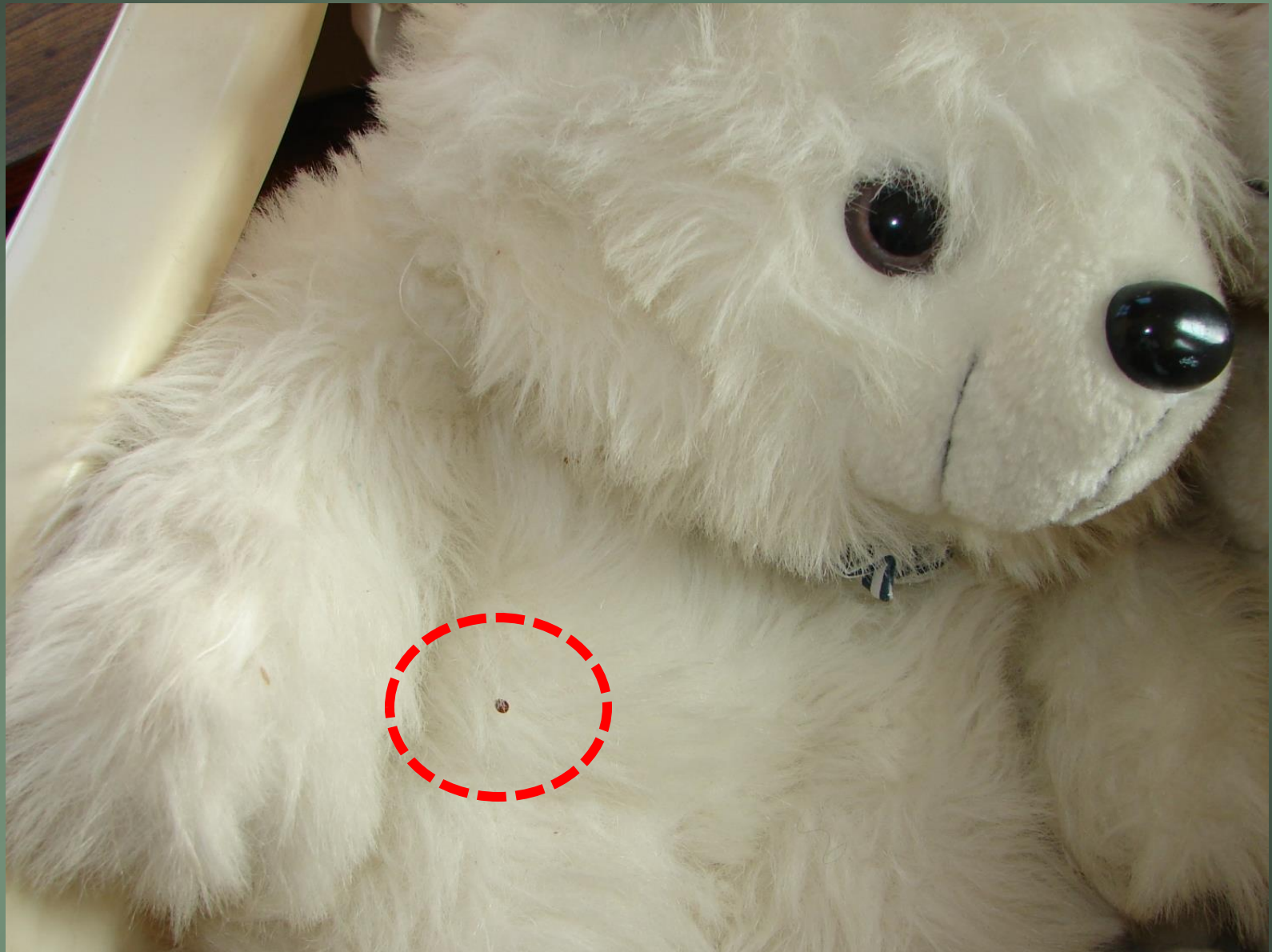
Electrical Outlets



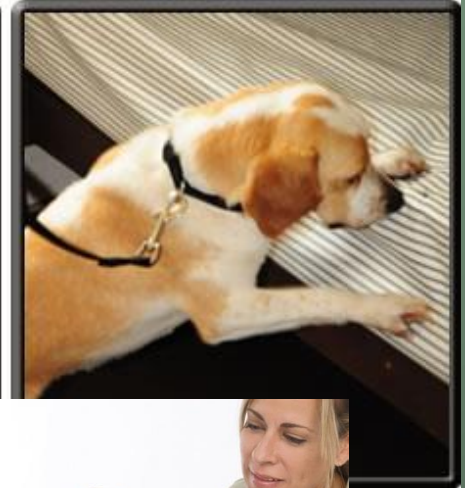
Behind Molding



Where You Least Expect It



Bed Bug Detection Dogs



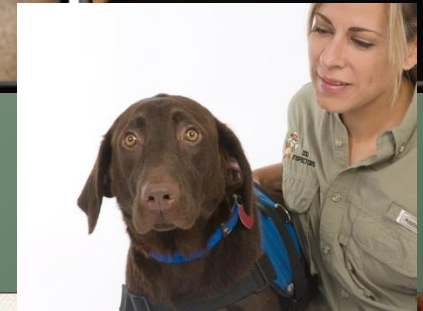
BEDBUG SEARCH



Find them before they find you!
Book a visit with our gentle
BedBug Detection Dogs.



Call Now at (514) 422-8457



Bed Bug IPM

IPM = PM that relies on a combination of common-sense practices that present the least possible hazard to people, property, and the environment

- **Correctly identify the bug**
- **Use sanitation measures:**
 - Remove clutter
 - Vacuum and discard bag
 - Wash and Dry clothes/linens (hot)
- **Use non-chemical measures**
 - Freezing treatments
 - Heat/steam treatments
- **Apply insecticides labeled for bed bug use to targeted sites**
- **Keep accurate records**
- **Evaluate effectiveness of treatment**



Eliminate Clutter



Vacuuuming



Freezing

FREEZE YOUR BEDBUG PROBLEM

CRYONITE®

NEW—NON-CHEMICAL SOLUTION!
Safe and Effective • No Chemical Residue
Non-Toxic • Children and Pet Safe

- Frozen CO₂ (dry ice) that goes directly from a solid to a gas
- -108° F or colder



Commercial Steam Treatment

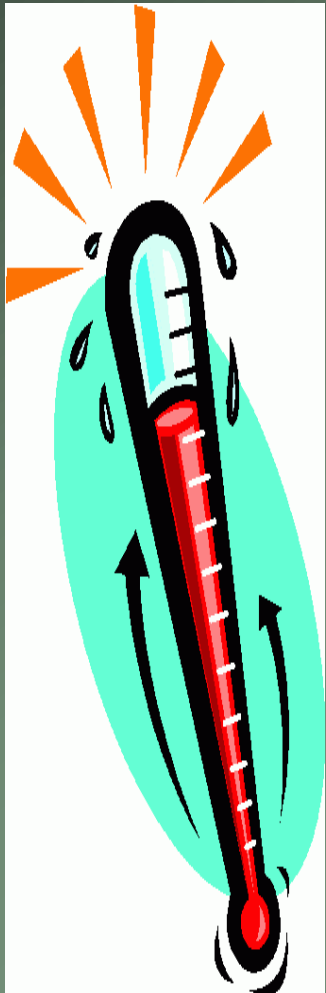


Steam Effectiveness

- Temperature of surface is approx. 160 ° to 180° F immediately after steam treatment
- Steam Heat Penetration
 - $\frac{3}{4}$ " in fabric materials
 - $2\frac{3}{8}$ " inches in gaps or openings



Time Required to Kill Bed Bugs Utilizing Heat



	<u>Adults</u>	<u>Eggs</u>
113° F	90 minutes	7 hrs.
118° F	20 minutes	90 min.
$\geq 125^{\circ}$ F	< 1 minute for both	

Heat Treatment



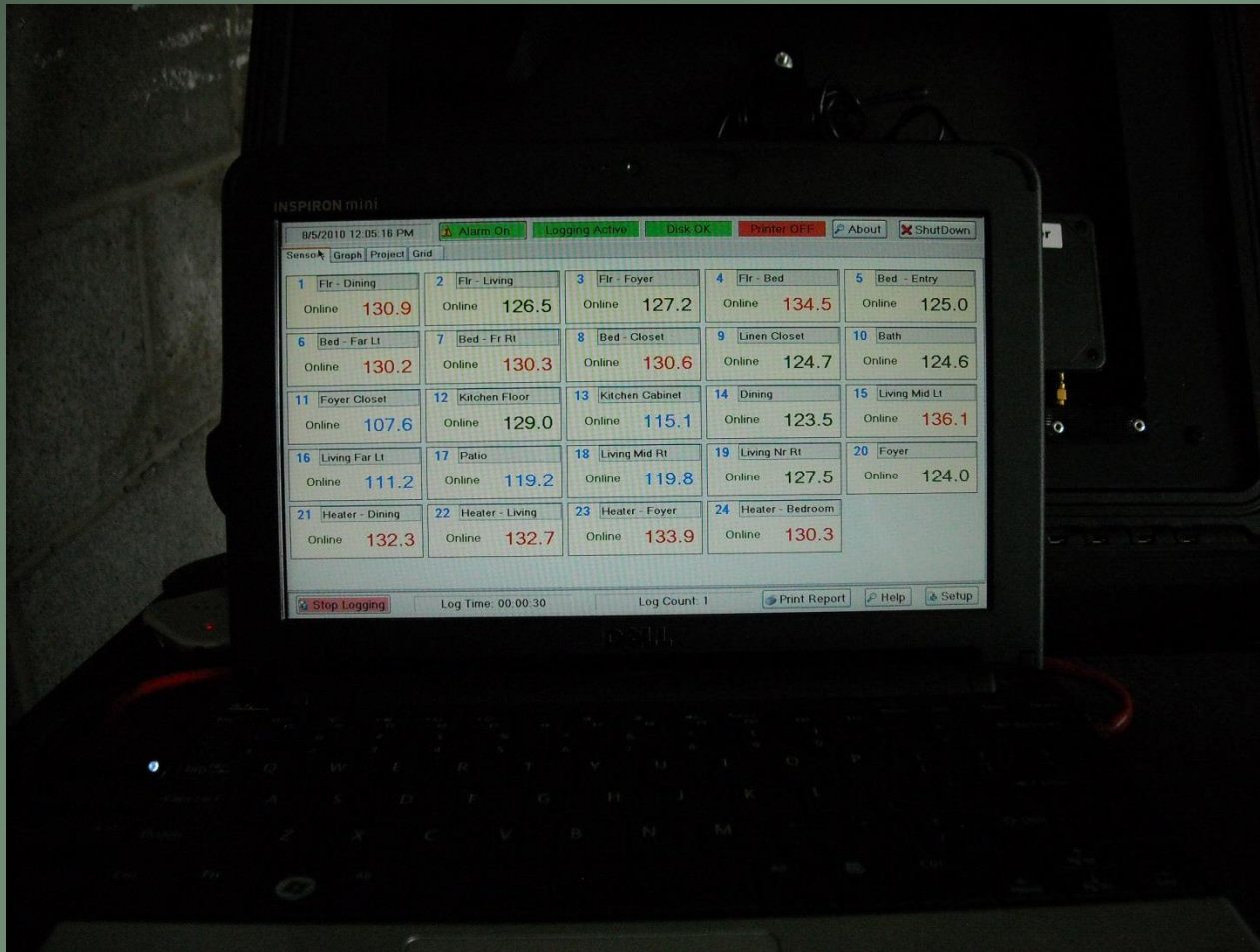
Heat Treatment



Heat Treatment



Heat Treatment



Chemical Application



Fumigation



Over The Counter ... Take Your Pick



DO NOT Use Bug Bombs !



Use Zippered Mattress, Box Spring & Pillow Covers

Economically Designed Mattress Protectors That Are Impermeable to Dust Mites, Bed Bugs, Mold and Bacteria
WATERPROOF • BREATHABLE • NON-ALLERGENIC



KleenCover™ Superior Full Encasement

- Total Mattress Encasement
- Waterproof
- Protects Against Bed Bugs
- Exclusive Zipper-Hook Lock*
- Stretches To Fit 15" Deep Mattresses

Made of a comfortable stretch fabric and joined to our unique light weight barrier, KleenCover™ mattress protectors can be used on any mattress. Hot water wash with regular detergent and non-chlorine bleach. Use air fluff to dry or medium heat, permanent press cycle.





KleenCover™ PillowSafe™

- Total Pillow Encasement
- Waterproof Protection
- Dust Mite Protection
- Bed Bug Protection
- All Sizes Available

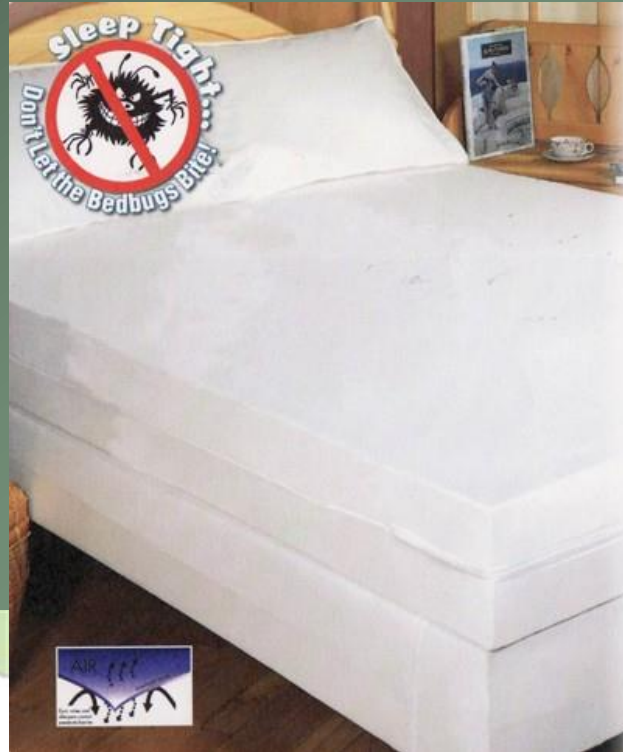
KleenCover™ Classic

- Fitted Sheet Style
- Waterproof on Top
- Quilted Matt Side
- Snug Fit with Easy Removal
- Fits 12" to 15" Mattress Depth

BugProof Boxspring Cover

- Polyethylene Total Encasement
- Bed Bug Protection
- Exclusive Zipper-Hook Lock*
- Dust Mite Protection

*Flare Sewing




PROTECT-A-BED

ALLERZIP™ BEDDING ENCASEMENT

Safe Home Products®



SLEEP LIKE A BABY WITH PARAVINYL.

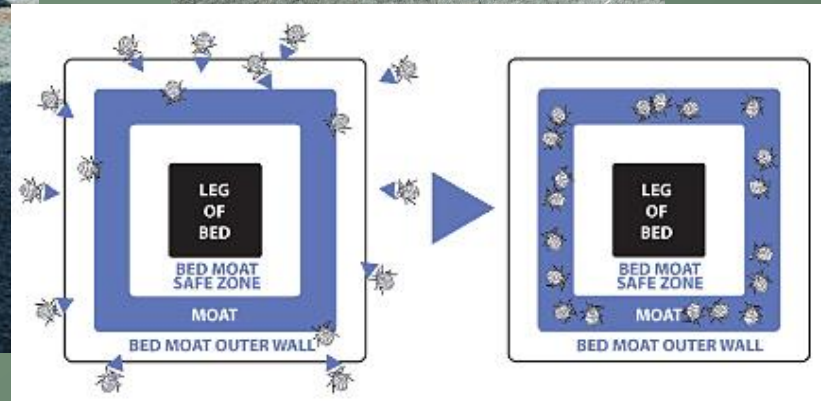
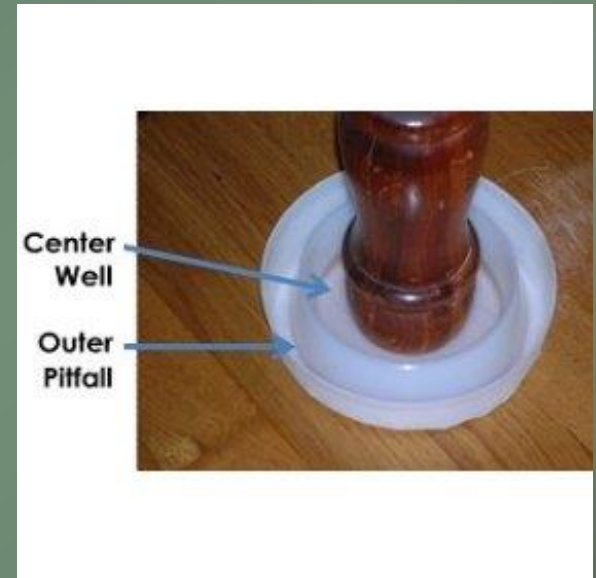


**EASY INSTALLATION
 ANTI-ALLERGY BEDDING
 ECO-QUIET MATERIAL
 PARASITE FREE SLEEP
 BED BUG PROTECTION**

Encasements/Covers for Traveling



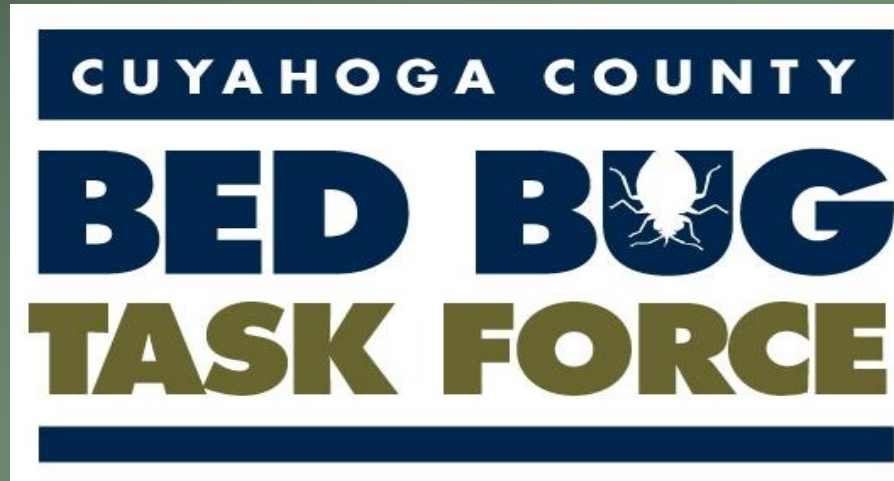
Moats & Interceptors



Basic Traps



www.cuyahogabedbugs.org



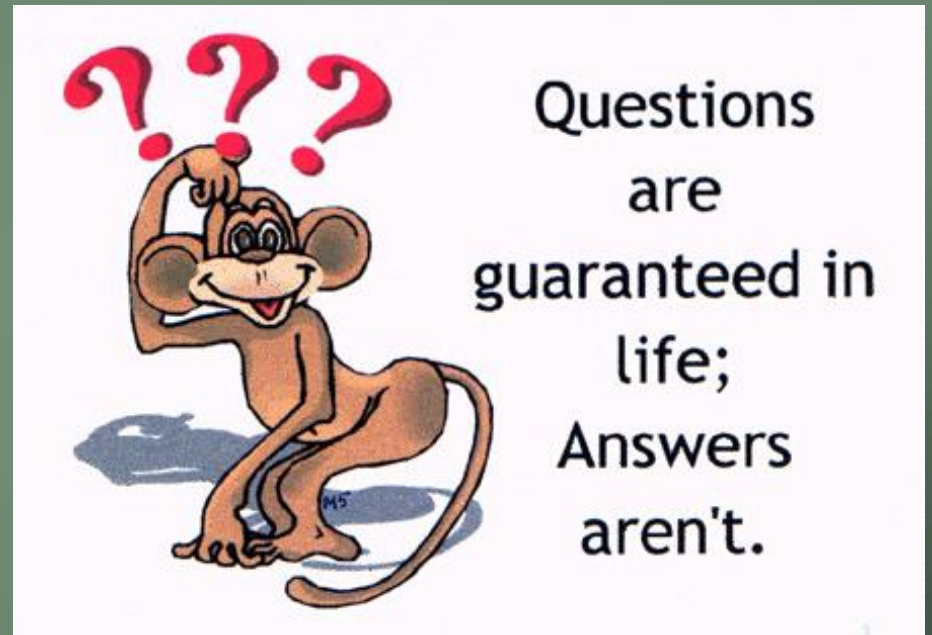
2013 CCBBTF Fall Conference

Tuesday, October 29th

Grace Christian & Mission Alliance Church

7393 Pearl Rd. Middleburg Hts.

Questions ?



Questions
are
guaranteed in
life;
Answers
aren't.



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