

May 25, 2016

IRO Webinar Bed Bugs



Presenters:
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and Corky Wolf



Webinar Agenda

- Welcome
- Sponsor Introduction
- NAA Membership
- Bed Bugs Overview
- Q&A
- Conclude

Zillow GROUP



- **Highest brand awareness among rental websites¹**
- **“Zillow is searched more than “Real Estate” on Google.**
- **Nearly 72% market share of all mobile exclusive visitors to the real estate category³**



1) Source: Data collected June 2015 by Pacific Market Research. Base: Next 3 Month Renters. Q: Please list all the websites and/or apps that come to mind related to shopping for an apartment or home for rent.
2) Source: Google Trends, “Interest Over Time”, Real Estate Category, United States, 4/2006-4/2016
3) Source: comScore Media Metrix Real Estate Category Ranking by Unique Visitors, April 2016, US Data



Price it. Post it. Share it.

Advertise the easy way.

- List your rental for free on the largest rental network on the Web.
- Take a video tour or upload unlimited photos to help your property stand out.
- Quickly compare and respond to inquiries.

[Zillow.com/rental-manager](https://www.zillow.com/rental-manager)

Thank you to our Sponsor!



10 in 2: Growing Stronger Together

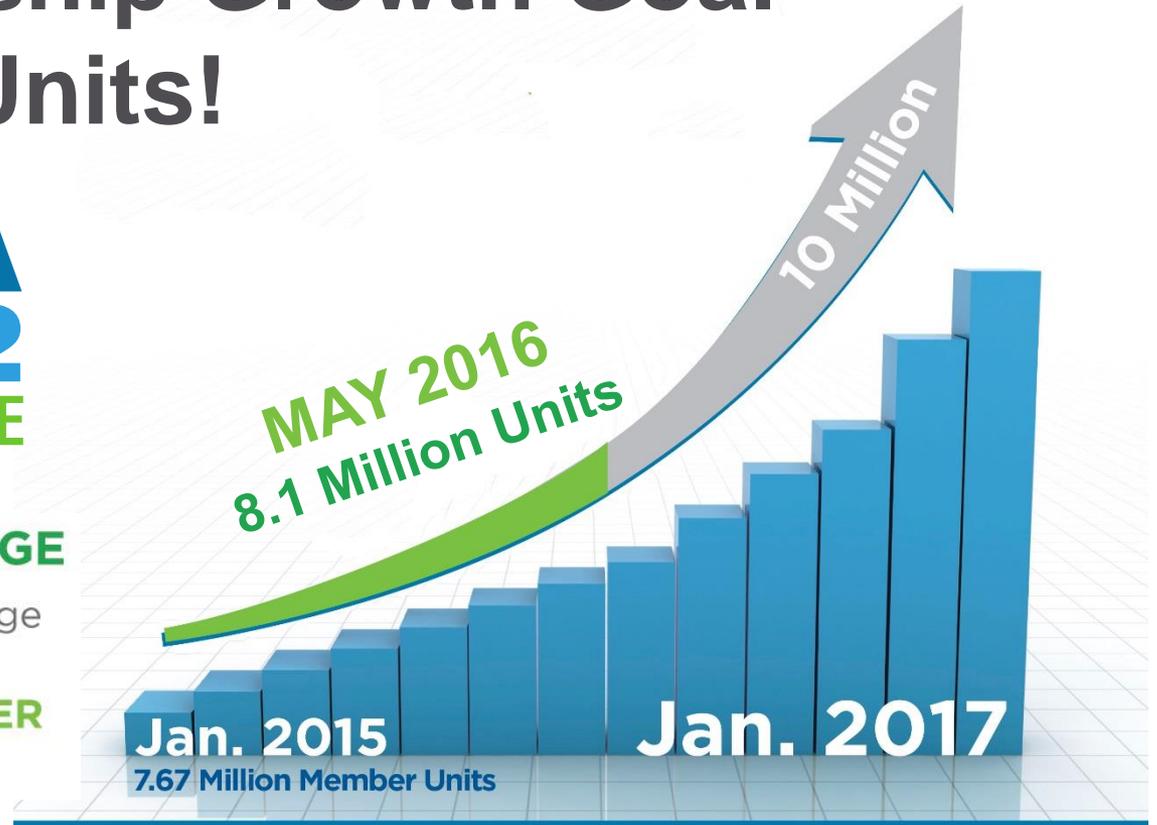
NAA Membership Growth Goal to 10 Million Units!



EMBARK ON A CHALLENGE

Join us in our journey and pledge your commitment to

GROW STRONGER TOGETHER
one community at a time.



AEX (Affiliate Exchange)

And NEW Resource



- Online Resource for affiliate staff, board, etc.
- Library of best practices
 - Peer-to-Peer Network
 - Articles
 - Videos
 - And more!

www.naahq.org/aex

BEDBUGS

Cimex Lectularius

Latin: Couch bug

History

- ▣ Evolved from Batbug (fossilized Egyptian bedbugs)
 - ▣ Pervasive and ubiquitous
 - ▣ Practically eliminated from 1st world in 1940s
 - ▣ Early 2000s made comeback
-
- ▣ Myth: DDT is not necessarily effective.

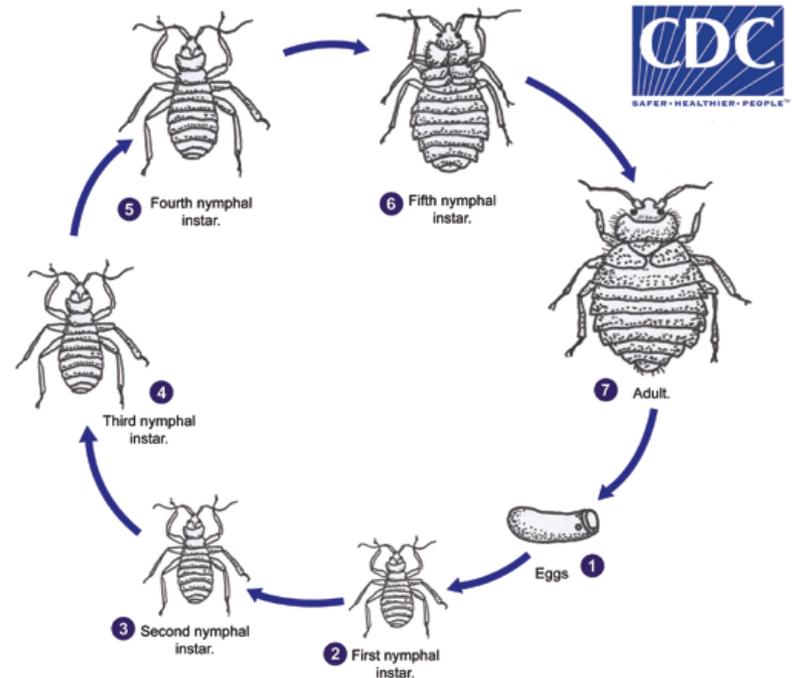
Biology

- ▣ 7 Stage lifecycle
- ▣ Feeding requirements
- ▣ Impact of temperature
 - 65 vs 85 degrees

Genetically designed
to adapt...

(Fordham University)

- ▣ Females typically leave nest when impregnated



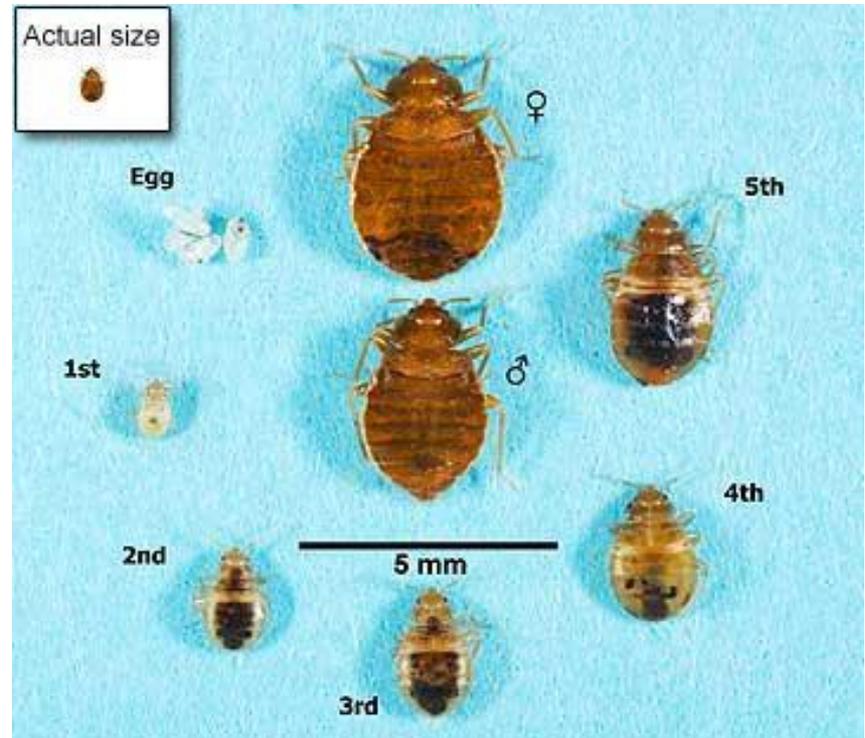
Itch Factor

Warning

Next page – pictures for identifying purposes

Identification

- ▣ Adults: apple seed.
- ▣ Eggs: grain of salt
- ▣ Nymphs: gnat+



Nests

▣ Bedbug infestation



Addressing Infestations

- ▣ Identification: Human/33% – Dog/95%
- ▣ Policy: partnerships essential
 - Early notification
 - Quick/professional response
 - Clear communication with residents
- ▣ Partner w/Licensed Pest Control Operator (PCO)
 - Notifications – requirements for residents!
 - Plan...

Pest Control Plan

- ▣ Licensed & Experienced?
- ▣ Method?
 - Pesticide, Heat, Trapping, Cold, Combo?
- ▣ Spray jockey vs. Time waster: Balance

- ▣ Residual effects: OH study – Temprid© & Transport© - lethal for 6 mos. (w/45 minute stay)
- ▣ Heat: 114 degrees & 119 degrees
 - (Dryers are your best friends!)

Don'ts...

- ▣ Do not use Alcohol for contact kills
- ▣ Do not use Pyrethroid based sprays/bombs
- ▣ Do not ignore the issue: Iowa Class action case
- ▣ Do not over-react (personnel to space suits)
- ▣ Do not encourage residents to discard furniture
- ▣ Do not ignore employee concerns
 - Provide Dryers onsite
 - Home care for employee infestation

Do's

- ▣ Document, document, document!
 - Policy, Process, Complaints, Concerns, Staffing, PCO's, Health Departments, Turn-overs, etc.

- ▣ Take Pro-active steps:
 - Remember mold/water intrusion?
 - Address it at move-in

Heat Process for Bed Bugs Tips from Carlton Wolf

This is not for everyone

- There are many ways of treating bed bugs. I am not recommending any one over the other.
- I prefer to use this method. I find it's more affordable if I do it and I don't have to use chemicals.
- If this is not done properly it could be dangerous. If you decide to do this, **BE CAREFUL!**
- There are more safety precautions than what I have documented here that can be used.
- If you are someone who chooses to use this method or some variation of it, I recommend you supplement my tips with further knowledge on the subject.
- There are pest control companies who will do the heat treatment for you.
- We do this ourselves, it works for us and it makes a treatment that works well and is affordable. I am not recommending you use it, I am just sharing my own experience.

Objectives

- To describe our heat treatment process
- To share our experiences so that you have a better understanding which will help you decide:
 - a. Whether to do it yourself
 - b. Whether you should hire a Pest Control Operator and if that PCO is, at the least, doing what they should for a successful heat treatment
 - c. Whether you want to look more into chemical treatment

Why Heat?

✓ FAST RESULTS

Heat treatment can typically be completed in 1 day and rooms back in use in less than 24 hours.

✓ ENVIRONMENTALLY FRIENDLY

No chemicals, no toxic fumes, and no residue

✓ EFFECTIVE

Heat kills the entire life cycle of all insects from eggs to adults.

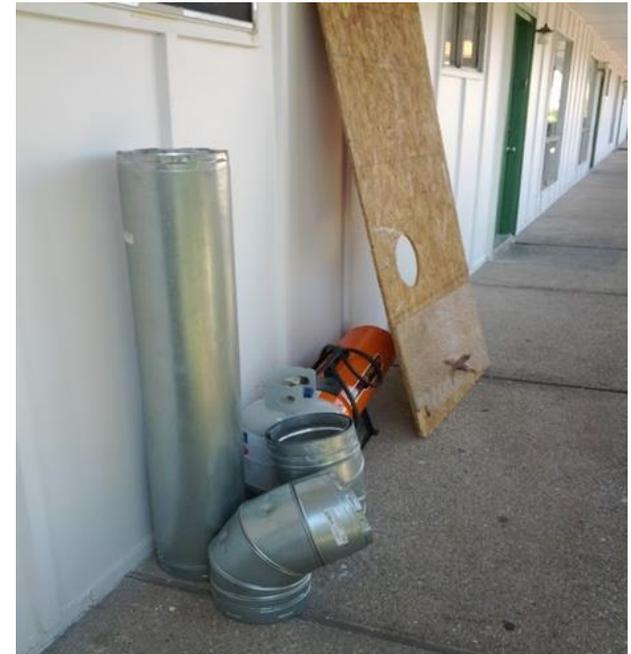
✓ ECONOMICAL

Heat treat an entire structure or spot treat high-infestation zones while other sections of the structure remain operational.



The hardware we use

- Plywood door cover with hole (Hole in cover is offset from center to keep the heat source away from the door)
- 4' x 8" double wall flue pipe
- 8" double wall flue pipe elbow
- Fan forced propane heater, 120 btu
- Propane tank (2 or 3 20-pound tanks)
- Thermometer
- Extension Cable



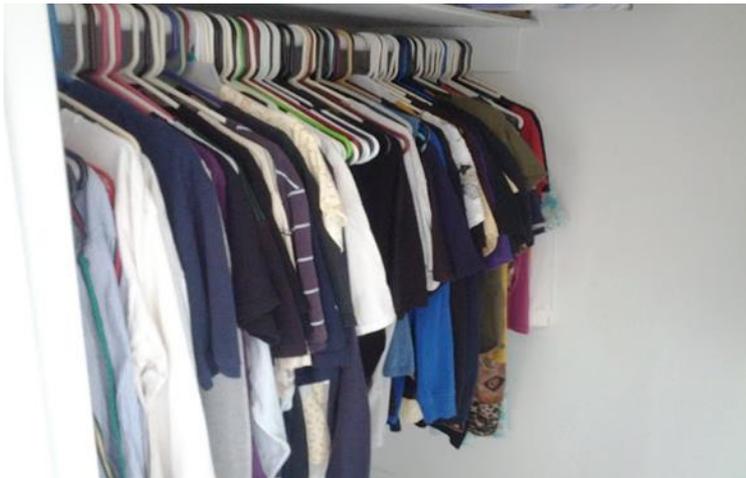
A word about carbon monoxide

- We place CO alarms into the unit and any adjacent units, including the ones above and below. We also crack open windows. Good CO detectors can be purchased for less than \$30. I recommend CO alarms that meet the requirements of the current UL 2034 safety standard.



- More information on Carbon Monoxide in the FAQs at the end of the presentation.

Step 1 – Prepare the Unit



a) Items that must be removed from heated area.

- Pets – including fish in aquarium
- Fresh food – fruits, vegetables, perishables
- Foods that melt – chocolate, candy, etc.
- Prescription and over the counter drugs
- Make-up, Wax based items – candles, wax figurines
- Anything pressurized – spray cans, fire extinguishers, oxygen bottles, etc.
- Flammables – lighters, lamp fuel, solvents, etc
- Wooden and stringed musical instruments
- Family heirlooms and irreplaceable items should be inspected and a determination made as to whether they should be treated.
- House plants
- Some of the smaller items can be stored in the fridge during the treatment.

b) Clothing

- The bed bug will seek shelter on and in clothing. Therefore any clothing removed from the space before a the treatment must be treated before being returned to the unit.
- Clothing or any item that is clothes dryer safe, for example: stuffed toys, small pillows, that are placed in a clothes dryer and run on a hot setting for 30 minutes will kill any bed bugs or eggs on them.
- Avoid contaminating freshly washed clothing. Do not return the clean clothing to the bag or basket it was transported in unless that container was also treated.



b) Clothing

- Clothing left in the heated unit must be loosely packed. Tightly packed baskets will prevent bed bug lethal temperatures from reaching all clothing. Do not place clothing in plastic bags.
- Clothing in drawers can be left in place. Except if the clothing is tightly packed, then some items must be removed. It may be necessary to remove the drawers from dressers to help with the air movement.
- Clothing on hangers may be left in the closets if the space between the items is large enough to allow the heat to circulate.



c) Larger fabric items – linens, towels, blankets, etc.

- These items should be left in the area being heated, as they are likely to shelter insects.
- Place these items in open weave baskets. Pack items very loosely to allow for the air circulation. Do not pack in plastic bags.



d) Papers, smaller items, etc.

- This heating treatment requires moving large amounts of air to be successful. All items that can be blown around and possibly damaged need to be protected.
- Loose papers need to be gathered and boxed.
- Glass items, knick knacks, etc. will need to be secured. Do not leave breakable items on shelves or other areas where damage could occur.
- Pictures, paintings, and other wall-mounted items will need to be taken down to prevent damage.



e) Electronics – televisions, computers, video players, stereos, etc.

- Electronics are a hiding place for bed bugs. Do not remove electronics from areas being treated.
- Switch all electronic appliances to the off position.
- Disconnect all electrical appliances by unplugging from wall outlet.



f) Waterbeds and airbeds

- Waterbeds will need to be drained. If the waterbed is not drained, it will prevent the frame from reaching lethal temperatures.
- Air beds will need to be partially deflated to avoid damage.
- Select Comfort type air beds with an electric pump must be partially deflated and unplugged from the wall outlet.

Step 2

- Bag and remove bedding. Wash and dry on high heat.
- We lean mattresses up against the wall and remove loose cushions from all furniture.



Step 3 – Loosen up the unit

- Pull everything away from the walls
- Open all the doors
- Open all drawers
- Make sure nothing is packed tightly in the closets
- The purpose is to facilitate air movement through everything.



Step 4

Turn on any ceiling fans and the air handler/furnace.



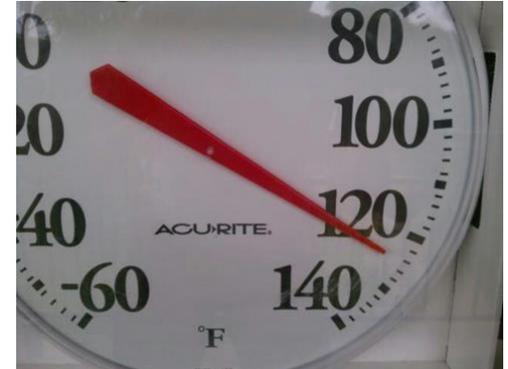
Step 5

- Crack open some windows
- Open/remove the front door and cover the opening with a plywood assembly with a hole in it. We will use an 8" diameter double wall flue pipe to convey the hot air.



Step 7

- Heat the unit to 120 – 130 degrees Fahrenheit then adjust heat source to maintain this temperature
- Maintain that temperature for at least 4 hours
- Everything in the unit must reach 120 degrees Fahrenheit for 1 hour for this process to be effective.
- If you were to stick your hand down into the sofa it needs to be 120 degrees for 1 hour.
- We use an infra-red thermometer to monitor surface temperatures in the unit
- **Monitor, monitor, monitor** We recommend not exceeding 130 degrees Fahrenheit in the unit



Step 5



Step 6

- We use a fan forced propane heater to apply the heat to the unit.



Keys to Success



Tips from other owners

- In larger units you might need fans inside the unit to move the heat adequately.
- In larger units you may need to open a window in the back of the unit to prevent pressurization of the unit.
- CO detectors should be placed in all adjacent units. Residents in adjacent units should be warned.
- Use bed bug dogs to make sure that the bugs are not in adjacent units also
- Be aware if you have fire sprinkler systems. I understand some must be set to “test” or they will go off. We have no experience with these. Please ask a fire sprinkler professional.

FAQs

Q: What are the benefits to heat treatments for bed bugs?

Less prep work. Fewer pesticides are used, if any are used at all. You don't need to throw out your furniture. (Some heavily infested items may need to be thrown out with conventional treatments.) The results are fast. The proper temperatures destroy bed bugs in minutes. A typical heat treatment for bed bugs is completed within 6-12 hours. Compare this to a conventional treatment for bed bugs, which requires subsequent treatments and regular follow ups, and in few cases, could require months of follow up. Ideally, you want to eliminate them.

Q: Will heat damage things?

Never say never, but generally it does not damage the structure or furnishings. Otherwise temperatures are kept within a lethal, yet not damaging range of 145 degrees.

Q: Will heat set off my sprinkler heads?

This is a question best answered on a case-by-case basis as sprinkler system trigger points vary. In most cases, the sprinkler head is protected from the heat with a sprinkler head cover. Inside the cover, it only gets to about 120 degrees which the sprinkler heads can handle. Talk to the company that services your sprinkler systems.

FAQs

What CO level is dangerous to my health?

The health effects of CO depend on the CO concentration and length of exposure, as well as each individual's health condition. CO concentration is measured in parts per million (ppm). Most people will not experience any symptoms from prolonged exposure to CO levels of approximately 1 to 70 ppm but some heart patients might experience an increase in chest pain. As CO levels increase and remain above 70 ppm, symptoms become more noticeable and can include headache, fatigue and nausea. At sustained CO concentrations above 150 to 200 ppm, disorientation, unconsciousness, and death are possible.

Are CO alarms reliable?

CO alarms always have been and still are designed to alarm before potentially life-threatening levels of CO are reached. The safety standards for CO alarms have been continually improved and currently marketed CO alarms are not as susceptible to nuisance alarms as earlier models.

FAQs

How should a consumer test a CO alarm to make sure it is working?

Consumers should follow the manufacturer's instructions. Using a test button tests whether the circuitry is operating correctly, not the accuracy of the sensor. Alarms have a recommended replacement age, which can be obtained from the product literature or from the manufacturer.

How should I install a CO Alarm?

CO alarms should be installed according to the manufacturer's instructions. CO alarms may be installed into a plug-in receptacle or high on the wall. Avoid locations that are near heating vents or that can be covered by furniture or draperies.

Will my insurance cover this if something goes wrong?

This is a question you might want to ask your agent. The answer might vary depending on factors like policy, location etc.

FAQs

Will the bed bugs move into adjacent units when it gets hot?

This has never happened in our experience.

How many of these have been successful for us?

We have done about 24 units in the last year. 2 failed because we rushed the process by heating only for 2 hours. All 24 were ultimately successful.

Will the heat damage electronics?

All electronics have a storage temperature and an operational temperature. Storage temperatures typically allow electronics to be subject to up to 149°F. Your temperatures should be monitored at all times. Try not to exceed 130°F. All electronic equipment within the space should be unplugged during a heat treatment.

Will the heat damage furniture?

We have damaged an old table that was left too close to the heat source. The edges got frayed. We don't think it would have been damaged if it had not been so old and placed better.

FAQs

What type of heater are you using?

We use a 125,000 BTU Forced-Air Propane Heater offers easy operation with variable heat controls and automatic shut-off for safety. This heater features continuous electronic ignition for fast startup and can be used to keep areas up to 3,100 sq. ft. warm. This powerful heater runs up to 22 hours on a full 100 lb. propane tank.

Produces 125,000 BTU's for effective heating

Heats spaces up to 3,100 sq. ft.

Operates for 22 hours on a full 100 lb. propane tank

Continuous spark ignition allows for easy operation

Automatic shut-off provides added safety

Easily adjustable heating angle

10 ft. hose and regulator included

ANSI Certified : Yes

FAQs

Forced-air propane heaters use a fan to blow air that has been warmed by metal or ceramic heating elements. A forced-air heater is appropriate for quickly heating up a small- to medium-sized room, but can be noisy.

Are space heaters a fire hazard?

Space heaters (electric and combustion) are implicated in about 25,000 residential fires every year. To ensure proper safety, always follow the manufacturer's usage instructions and fill out the warranty card to receive informational updates from the manufacturer. Also, look for extra safety features such as an automatic shutoff switch that can shut down the unit if, for example, it gets upended. In addition, choose a model where the heating element is adequately enclosed within the unit.

FAQs

What is the cost of doing this process ourselves?

Startup costs (one time)

Purchase of heater and other hardware about \$300

Main cost of each treatment

About 8 man hours for preparation, setup and monitoring approximately \$120 to \$160 per treatment.
Only one treatment is needed if done properly.

What have we saved?

Chemical treatments were costing us \$600, on average, per unit to completely eradicate slowly.
Residents were frustrated.

At 24 successful units treated so far we have saved approximately \$11,000 on treatments and our employees and residents have benefited.

Are you allowed to treat bedbugs. Don't you have to be a PCO?

In Texas you can heat treat bed bugs in your single family homes or apartments. I believe it's legal in most states to treat your own units, but please check.

Questions?

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IRO Bed Bugs Webinar

Q&A?

Thank you!

