



DO-IT-YOURSELF BED BUG CONTROL GUIDE



ALASKA NATIVE
TRIBAL HEALTH
CONSORTIUM





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Bed bug myths

FALSE	TRUE
Bed bugs won't come out if the room is brightly lit.	While bed bugs prefer darkness, keeping the light on won't keep these pests away.
Bed bugs cannot be seen by the naked eye.	You can see all stages of bed bugs and their eggs with your naked eye.
Bed bugs live in dirty places.	Bed bugs are not attracted to dirt and grime. However, clutter offers more hiding places.
Bed bugs transmit disease.	There have been no cases or studies that indicate bed bugs transmit diseases.
I can get rid of bed bugs by leaving my house empty for a few weeks and letting it freeze.	Adult bed bugs may live as long as a year without food, so a long vacation won't get rid of an infestation. Allowing your house to freeze can cause severe damage to your home.

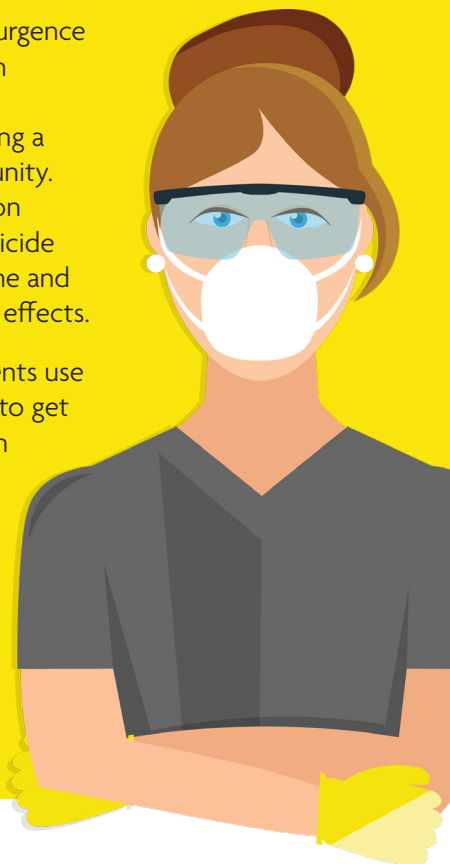


OVERVIEW

In recent years, there has been a nationwide resurgence of bed bug infestations, and Alaska has not been immune to this trend. Rural Alaska is especially disadvantaged because of the high cost of getting a pest management professional to a rural community. Without professional help, people tend to rely on pesticides to battle bed bugs on their own. Pesticide misuse can affect the air quality inside your home and may cause pesticide poisoning and other health effects.

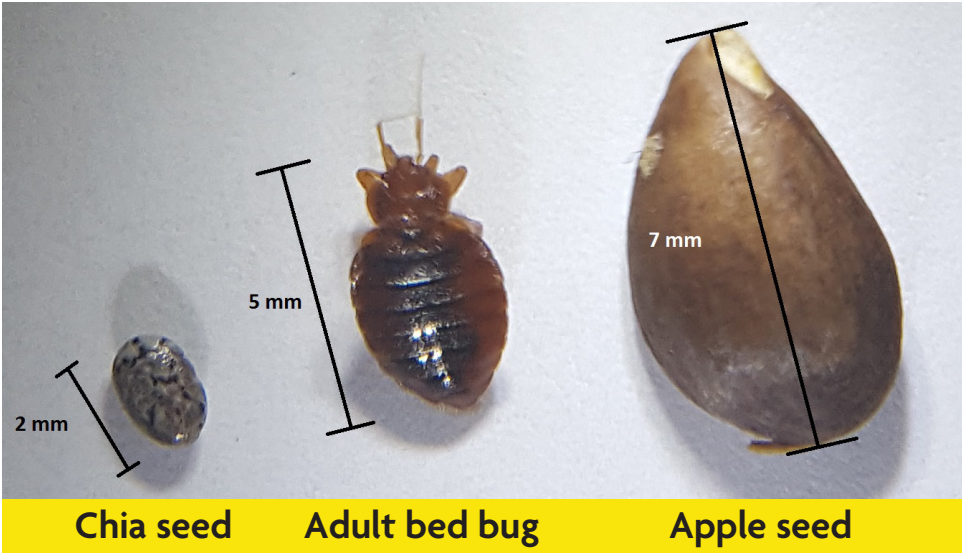
This guide is aimed at helping Rural Alaska residents use an Integrated Pest Management (IPM) approach to get rid of bed bugs on their own, incorporating both non-chemical and chemical methods. This guide outlines the different tools used to get rid of bed bugs. Each of these tools must be used together – none of these items will get rid of your bed bugs if used alone.

Getting rid of the bed bugs is not going to be an easy task and will require a lot of elbow grease and patience. ***However, it can be done!***

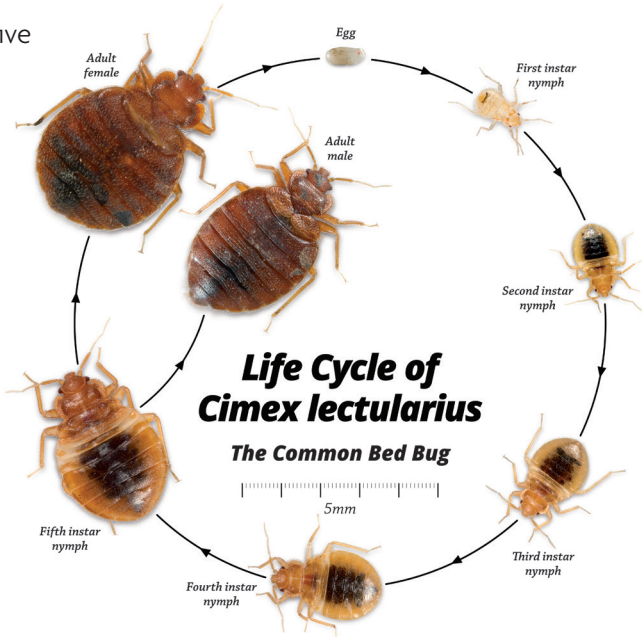


IDENTIFYING BED BUGS

Bed bugs are small, wingless insects that feed on blood. As adults, they are between the size of a chia seed and an apple seed.



Bed bugs go through five juvenile stages before maturing into adults.



Stephen Doggett

BED BUG TOOLS

Flashlight

You'll want to inspect your home first to confirm whether or not you have bed bugs. Initial inspections should be focused within 15-20 feet of where people sleep because this is where bed bugs are most likely to be found. A flashlight is a really useful tool when inspecting your home.

When inspecting for bed bugs, you want to look for:



Gary Alpert

LIVE OR DEAD BED BUGS



Mohammed El Damir

**EMPTY SKINS THEY HAVE
SHED AS THEY GROW FROM
ONE STAGE TO ANOTHER**



Gary Alpert

EGGS



Susan Jones

**BED BUG FECAL STAINS
(LOOKS LIKE AN INK SMEAR)**

PLACES TO INSPECT FOR BED BUGS:

- Mattress and box spring, especially along edges, under seams and tags
- Bed frame
- Upholstered furniture, such as couches, recliners, and armchairs
- Screw holes of furniture
- Behind bed headboard
- Nightstand or other furniture near bed
- Behind baseboard or along the floor against the wall
- Window and door frames
- Picture frames
- Electrical outlets
- Edge of carpeting
- Window curtains, especially near the curtain rod
- Behind loose wallpaper or chipped paint
- Inside baseboard heaters
- In personal belongings, including books, stuffed animals, and hundreds of other locations

TIP!

While inspecting your home, take note of areas with signs of bed bugs. You'll need to revisit these areas when you begin treatment. Inspections should also take place during and after treatment to determine if your efforts have been effective.



Garbage bags or plastic totes

Clutter in your home gives bed bugs lots of places to hide. Reducing clutter will give you better control of the bed bugs by reducing the number of hiding places. Less hiding places for the bed bugs means less places for you to monitor and treat. Heavy duty garbage bags or plastic totes can be used to put away things you don't need and eliminate those hiding places. When reducing clutter:

- Inspect and treat all movable items from infested rooms and then place them in heavy duty garbage bags or plastic totes.
- Pick up everything from the floor and remove everything from all shelves, closets, dressers, and other furniture and storage containers.
- Treat items using your clothes dryer or if they can't be heated, clean them with soap and hot water and then place them in garbage bags or totes.
- Items like clothes, bedding, pillows and stuffed animals can be treated in the clothes dryer.
- Items that can't be cleaned or heated should be thoroughly inspected before being placed in garbage bags or totes.

Totes should be sealed shut with a tight-fitting lid. Garbage bags should be tied shut so that bed bugs cannot enter them. Items should remain in garbage bags and totes until you are certain you've removed all of the bed bugs from your home.



Mattress encasements

Bed bugs are often found in sleeping areas, especially in mattresses and box springs. A special sealed cover called an encasement can help control bed bugs in these areas. Encasements cover the entire mattress and box spring. Once the encasements are sealed, any bed bugs inside the mattress or box spring cannot escape or feed, and they will eventually die. Encasements can also be placed on mattresses and box springs that don't have bed bugs and will help prevent these items from becoming infested. The smooth covers are also easy to inspect and clean.

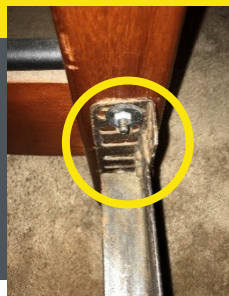
Before installing an encasement, remove as many bed bugs and eggs as possible from the mattress, box spring, and bed frame. You can easily pick up bed bugs and their eggs by pressing down on them with sticky tape.



Look for bugs and eggs in the padding, seams, tags, stitching, framework, and coils of the mattress, box spring and bed frame. Remove any bed bugs and eggs you find and seal them in a plastic bag before throwing them away.

TIP!

Inspect the bed frame and box spring for any sharp edges, bolts or other areas that could rip the encasement. Adhesive felt pads, or even duct tape, can be used to cover these areas and protect the encasement.



Put the mattress and box spring inside encasements. Once the encasements are installed they should not be removed for at least a year. Fitted sheets and other bedding should be laundered regularly, but the encasements must stay in place to do their job. The encasements should be examined every few weeks to make sure there are no rips or worn spots where bed bugs could enter or escape.

Caulk

Since bed bugs are very small, it's easy for them to hide in just about any little crack or crevice. They can also use cracks as a route to travel through your home. If a crack or crevice is small enough to slide a playing card into, then it's big enough for a bed bug. Sealing off cracks and crevices will trap any bed bugs dwelling in those areas and will eliminate that as a potential hiding place for future bugs.

If you are unfamiliar with caulking, here's how you do it.

- 1. Clean and dry the area.**
- 2. Remove the cap and cut the tip at a 45° angle.** The farther down you cut the tip the larger the opening you will get. A smaller opening may be best for smaller cracks and crevices. If you have bigger gaps to fill, you may want to make a bigger opening.
- 3. Squeeze the caulk into cracks and crevices.**
- 4. Smooth it with a finishing tool.** In place of a finishing tool you can also use a piece of cardboard with a 90° angle.
- 5. Remove excess with a damp sponge before it dries.**

Areas that may need to be caulked include baseboards, door frames, window frames, holes for wires and plumbing, and any other cracks or crevices.



Read the label for additional instructions, warnings, and first aid measures. If you do not own your own home, you may not be able to use caulk. If you are a renter, be sure to talk to your landlord before applying any caulk.

Vacuum

Vacuuming is one of the best ways to remove the live bed bugs that are hiding in a room. It will also help make inspections a lot easier. A hose attachment can be used to help focus the vacuum's suction in small spaces, cracks and crevices. You could also use a brush attachment, which may help in dislodging eggs.

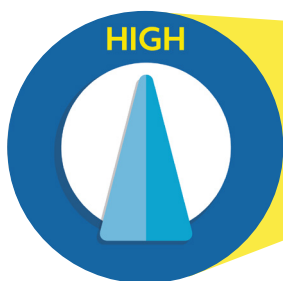
Things and places you want to vacuum:

- The entire mattress, box spring and bed frame
- Inside and under drawers of nightstands, dressers and other furniture
- Along the bottoms of walls and along baseboards
- Around heating vents and/or inside baseboard heaters
- Upholstered furniture such a couches, recliner, and armchairs, paying special attention to cracks, folds and undersides

When you're done vacuuming, the vacuum cleaner may have live bed bugs and eggs inside. Remove the entire vacuum bag or debris container (if you have a bag-less vacuum) after each use. Put the whole vacuum bag or the contents of the debris container into a plastic bag. Seal the plastic bag with tape and throw it outside in the garbage. Wash the vacuum hose attachments, brush attachments, and debris container with soap and hot water.

An option for keeping bed bugs out of your vacuum cleaner is to put a knee-high stocking around the hose attachment to catch any bed bugs before they enter the vacuum cleaner.



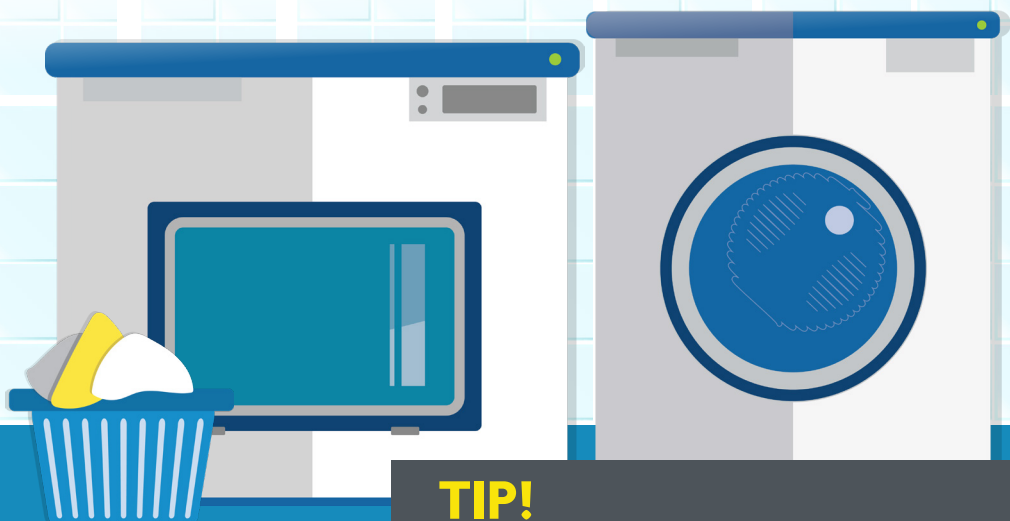


30 MINUTES

Clothes dryer

Heat is one of the best ways to kill bed bugs. Your household dryer is an excellent tool to kill bed bugs using heat.

A loosely filled dryer set on “high” is capable of killing all bed bug life-stages and their eggs in 30 minutes. You will want to increase the dry-time to more than 30 minutes if you have an old dryer that takes longer to get up to temperature, or if you are treating larger items that may take more time for the heat to penetrate.



TIP!

Consider purchasing a removable shelf for your dryer so that you can treat items that can't be tumbled, like shoes, handbags, toys, books, and many other items.

Steamer

Steam is a very effective method for killing bed bugs, especially for items that can't be treated with insecticide or placed in a clothes dryer. Steam can be used to treat bed bugs on mattresses, inside box springs, on upholstered furniture, along the edges of carpet, behind baseboards, and other cracks and crevices. For steam treatment to be effective, you want to make sure that the heat is maintained over every inch of surface. Your pace should be about 12 inches every 30 seconds.

When choosing a steamer to purchase for your bed bug control, there are some specific things you want to consider.

Steam temperature – Make sure the steamer produces steam of at least 200°F to kill bed bugs and their eggs.

Steamer capacity – You don't want to have to fill the water tank every 10 minutes. Purchase a steamer that has at least a 1-gallon capacity.

Attachments – Pick a steamer that has appropriate attachments for all type of surfaces like tiles, carpet and hardwood floors.

Boiling time – Pick a machine that boils water fast so that you don't have to wait so long. Most steamers take 10-15 minutes to boil water.

Pressure adjustment – Pick a steamer that allows you to adjust the pressure. You'll want more pressure when treating upholstered furniture and less pressure when treating cracks and crevices.



Pitfall trap

A pitfall trap is a trapping device used to “catch” bed bugs and prevent them from escaping. Its design relies on the fact that bed bugs are unable to climb on smooth surfaces. The trap is rough on the outside to allow bed bugs to climb into the trap and smooth on the inside to prevent the bugs from escaping. While it won’t catch all of your bed bugs, it may provide some immediate relief for sleeping. It is also a very useful monitoring tool.

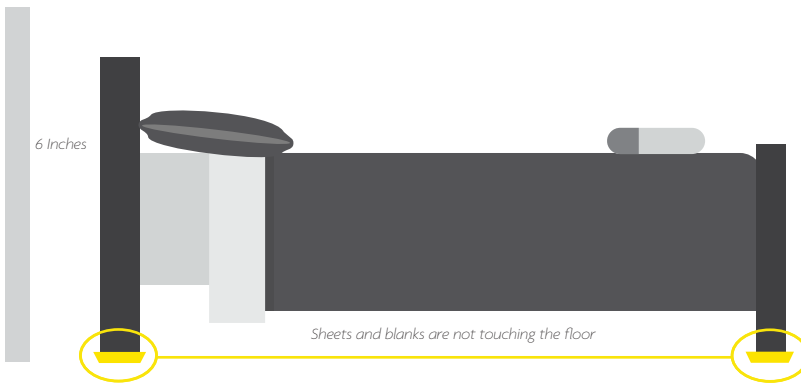
TIP!

You can make your own pitfall traps using common household products. See ANTHC’s “Do-It-Yourself Bed Bug Pitfall Trap” for instructions.

How to use:

Place the pitfall trap under each leg of the furniture where people sleep or rest so that the leg rests within the center well of the device. Eliminate all other pathways for bugs to access furniture.

Make your furniture an island:



You want to make your furniture an island so that the only way onto the furniture is via the legs that are contained within the pitfall traps. Pull the furniture at least 6 inches away from the wall. Do not let sheets or blankets hang down from the bed onto the floor. Any electrical cords between the bed and the wall should be disconnected.

Pitfall traps can be used on furniture such as beds, couches, and chairs. Additional traps may be placed on the floor along the walls to trap bed bugs as they travel.

All pitfall traps should be periodically inspected for bed bugs. Any bugs found should be killed and placed in a sealed plastic bag before disposal. Dust and debris should be cleaned out of the traps regularly.

Desiccant insecticide dust

“Desiccant” means a substance used as a drying agent. “Insecticide” means a substance used for killing insects. Desiccant insecticides do just that – kill insects by drying them out, causing them to dehydrate and die. Desiccant insecticides are effective against bed bugs.

CimeXa™ is one desiccant insecticide available on the market. CimeXa™ is a low-toxicity, white, fluffy powder that has a tremendous oil-absorbing capability. When bed bugs get this powder on their bodies it absorbs the moisture from the bugs, causing them to dehydrate and die.

As with any dusty material, CimeXa™ can be somewhat irritating to the eyes and lungs. Because of its drying properties, it can also have a drying effect on skin. As a safety precaution, it is best to wear goggles, gloves and a mask when applying CimeXa™. CimeXa™ should not be placed in areas with high air currents, like walkways and vents, because you do not want the dust to get kicked up and become airborne. People with respiratory illnesses should be removed from the area when CimeXa™ is being applied.



CimeXa™ may be applied to:

- Cracks and crevices
- Baseboards
- Door frames
- Mattress and box spring tufts, folds, and edges
- Interior framework of box spring
- Back side of bed headboards
- Picture frames
- Hollow furniture legs
- Underneath cushions of upholstered furniture
- Interior framework, cracks, and joints of furniture
- Behind electrical switch plates but NOT directly in electrical boxes

DO NOT use CimeXa™ on:

- Pillows, sheets or blankets
- On top of couch cushions
- Toys or stuffed animals
- Walkways
- Vents
- Any area where dust may get kicked up
- Food areas
- Clothes, shoes or body

HOW TO USE:

Before applying CimeXa™, put on goggles, gloves and mask.

Disperse a small amount of dust onto the item being treated using the applicator bottle. Use a small paint brush to push the dust into the desired locations.

Remember: a thin layer of dust does the trick

Bed – Remove bedding and take the bed apart. Treat the interior framework, joints, screw holes, and cracks in the bed frame. Treat the mattress and box spring by applying a light layer to tufts, folds and edges, and the interior framework of the box spring. Remove any wall-mounted headboards and treat the back side.

Furniture – Treat upholstered furniture by removing or lifting (if possible) the cushions and treating the under-surface. Treat the interior framework, cracks, and joints of the furniture, and the folds, tufts, and edges of cushions and other upholstered areas.

Walls – Treat wall voids by removing electrical switch plate covers to allow access, but don't apply dust directly into electrical boxes.

Other – Treat picture frames, moldings, hollow furniture legs, cracks or crevices, along baseboards, and any areas with visible signs of infestation, including rugs and carpet. Read the product label for additional safety information.



How much CimeXa™ is enough?

None



Too much



Just right



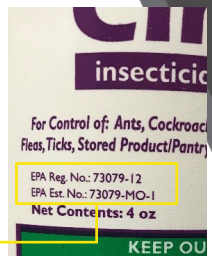
PESTICIDES

Unfortunately, there is no “magic bullet” product that will eliminate bed bugs on its own. Often times people overuse and misuse insecticides, creating a potential indoor air quality health hazard for themselves and others living inside the home.

Research has shown that many products for bed bug control are slow acting, contain ineffective ingredients or ingredients that bed bugs are resistant to, and/or act as a repellent that drives bed bugs away from treated areas. Unlike many other insecticides, bed bugs are not resistant to CimeXa™.

If you do decide to use store-bought insecticides to treat a bed bug infestation, you must read and follow the label. Things you want to look for include:

- How and where the insecticide should be applied
- If the insecticide is intended for indoor use
- Type of protective equipment required, such as gloves, safety goggles and face masks
- EPA Registration



When using a store-bought insecticide, DO NOT:

- Use an insecticide intended for outdoor use
- Use an insecticide that appears to be homemade or is missing an EPA registration
- Apply products to your skin
- Use more than directed
- Apply an insecticide on a mattress or bedding unless the product label says it's ok
- Mix different insecticides together – this can create a dangerous chemical reaction
- Use “bug bombs” or “foggers” – they are ineffective against bed bugs



TIP! Even if you do use insecticides, you still need to do most of the non-chemical steps described earlier to be successful.

POST-TREATMENT EVALUATION

As you've learned, it takes a lot of time and effort to get rid of bed bugs. Some of the methods, such as inspection and vacuuming, should be repeated every few days. Continue to practice the control methods listed in this guide until you haven't had any bites or haven't seen any new signs of bed bugs for at least a month.

Continue to monitor and inspect for bed bugs even after you suspect they are completely gone. Your awareness will give you an early warning of the need to attack the problem again.

Try not to be too discouraged if you have to repeat the whole inspection and treatment process.

You CAN get back to the point where you go to bed without worrying about the bed bugs biting.

FOR MORE INFORMATION

- Do-It-Yourself Bed Bug Pitfall Trap
<https://anthc.org/what-we-do/community-environment-and-health/healthy-homes>
- Virginia Dept. of Agriculture and Consumer Services
[vdacs.virginia.gov/pesticide-bedbug-fact-sheets.shtml](https://dacs.virginia.gov/pesticide-bedbug-fact-sheets.shtml)
- Centers for Disease Control and Prevention
cdc.gov/parasites/bedbugs/index.html
- U.S. Environmental Protection Agency
epa.gov/bedbugs
- University of Minnesota
bedbugs.umn.edu
- University of Florida, IFAS Extension
solutionsforyourlife.ufl.edu/bed-bugs





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