

# Technology

**At Right:** Separating the padded armrest of a couch from the back support padding reveals several adult bed bugs, nymphs and eggs at this account. (Photo by Paul Bello)

**Below:** Thorough treatment includes the removal of outlet covers and utility penetrations where stealthy bed bugs may harbor or travel. (Photo courtesy of Arrow Exterminating, Lynbrook, NY.)

**Next Page:** Austin Frishman demonstrates how to vacuum bed bugs in a training video recently produced by Bayer Environmental Science. (Photo by Paul Bello)



# Bed Bugs:

## What's *Really* Working?

Part one of this two-part series uncovers keys to beating these bloodsucking pests

By Paul J. Bello • Contributor

**T**hey're back! While not every pest management professional (PMP) is dealing with bed bugs, the infestations are spreading — with some companies tackling several such jobs each week, often twofold or threefold the bed bug jobs they handled last year.

“When I was a technician, we used cyanide egg gas pellets,” says Austin Frishman, AMF Pest Management Services in Boca Raton, Fla.

“We ran from room to room with the pellets, working our way out of the house. The slow guys didn't make it,” Frishman teased during a recent presentation on bed

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### Bed Bug Management: Steps to Success

- Properly train your service technicians.
- Provide customers with written pre-treatment preparation instructions.
- Provide customers with a clearly written description of the scope of your services and reasonable expectations.
- Ensure your service agreement states what you intended.
- Provide your customers with viable prevention recommendations.
- Be thorough.
- Use all viable control means available.
- Use non-traditional control techniques, combined with insecticide treatments.
- Use suitable vacuums.
- Use suitable steamers.
- Use the best-available products at the appropriate label rates.
- Use mattress encasements.
- Follow up in a timely and adequate fashion.
- Consider getting additional help for problem bed bug accounts.

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bugs. The *PMP* Hall of Famer and columnist recalls his technician days, 40-plus years ago, when bed bug work was done on a regular basis: “When a house had bed bugs, they had a lot of them. I used to strip down outside so I wouldn’t bring any home.”

## **IT’S A BIG JOB**

Without a doubt, bed bug work is a big job that takes a lot of effort and out-of-the-box thinking.

“One of the biggest factors in our success is that we stress the need to be thorough,” says Joe Kennedy, vice president of Arrow Exterminating, Lynbrook, N.Y. “We schedule bed bug jobs with at least two technicians working together because there is so much work that needs to be done. We are very thorough: A three-bedroom home can take two technicians about seven hours to complete.”

Kennedy reports that Arrow’s technicians will pull carpet, remove everything from walls, open all utility outlets, turn over and inspect all furniture for treatment and

remove all dust covers. At one job, he recalls how “the home was so infested that we bagged all the clothing and brought it to two local laundry services ourselves.”

Kennedy stresses that it is important to ensure that all cracks and crevices are treated, as well as any place bed bugs can hide.

“It’s definitely a two-man job,” Frishman concurs. “Technicians have to move furniture, mattresses and other things, plus turn them upside down for proper inspection and treatment.”

## **AN INTEGRATED APPROACH**

PMPs who are having success managing bed bugs use an integrated approach, rather than relying on any one technique or product to deliver a bed bug free-environment.

“We’re not relying on pesticides alone,” notes Rick Cooper, technical director of Cooper Pest Solutions in Lawrenceville, N.J. While his company does several bed bug jobs each week, Cooper says, “We have not seen

really great performance data regarding bed bugs and I'm also conducting our own testing. We use an integrated approach, including vacuuming, steaming, mattress encasements, inspection, pesticide applications and timely follow-up."

Others agree.

"We thoroughly vacuum every room at every job," Arrow's Kennedy adds. "While we understand that vacuuming may not remove every bed bug, there is value in the physical removal of as many bed bugs as possible. We then follow up the vacuuming with steaming, which kills all stages that the steam contacts, and we treat where necessary to take away harborage areas. We also install mattress covers as part of the job."

### **STEAM AND VACUUMS**

"We won't do a job without thoroughly vacuuming, and we don't want our customers to vacuum their dwellings themselves because they don't do the job as well as we



*Vacuuming bed bugs is neither a silver bullet, nor something customers should do themselves. It should be part of an integrated bed bug management program delivered by a pest management professional. (Photo courtesy by Paul Bello)*

do," says Lynn Frank, technical director at Suburban-Magic Exterminating in Smithtown, N.Y. His company does as many as 10 bed bug jobs each week.

"When customers vacuum, they can spread bed bugs all over rather than do any good," Frank adds. "Vacuuming immediately removes many of the insects and some of the eggs."

Frank is quick to caution that vacuuming is not a stand-alone treatment. Vacuuming might not remove all

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## Going to the Dogs

Termite detection dogs have been used by the industry for about 10 years. Recently, dogs have begun to be trained to help with bed bug detection.

"We began training dogs for bed bugs by request about two years ago," says Pepe Peruyero, president of J&K Canine Academy in High Springs, Fla. He adds that what sets J&K apart from other dog trainers is that for more than seven years, his team has worked in cooperation with the University of Florida's Department of Entomology, establishing certification and accreditation standards for entomologically trained detection dogs that is overseen by the National Entomological Scent Detection Canine Association (NESDCA).

Peruyero reports that not all dogs are well suited for bed bug detection.

"Hunting breeds are good choices," he adds. "For bed bugs, we prefer dogs in the 30- to 35-pound range because bed bugs may be found high or low in rooms and the dog may need to jump so it can let its handler know where the bed bugs are."

While it might seem a good idea to have a dog trained for both termites and bed bugs, Peruyero says a "single-discipline" dog is best because of the nature of the pests in question. By contrast, a drug detection dog may be able to sense several types of illegal substances – but the handler is only looking for the presence of these items. The differences between where a termite or bed bug might be in structures make it impractical for a dog to be "cross-trained," because it might alert to termites within a wall when the handler is looking for bed bugs.

Of course, there is no 100-percent accuracy with any method, and that includes using dogs.

"Dogs can make mistakes just like people," Peruyero says. "But overall, we are satisfied with the capability of our dogs, and we have the scientific research that backs up their dependability."

Peruyero also points out that dogs are not for every bed bug case: "If you have an account that's loaded with bed bugs, you probably don't need a dog to help you find them. A dog will help you when the human

eye can't easily detect the bed bugs and the customer is getting bitten. Trained dogs are best used in tough-to-solve bed bug cases."

If you're considering acquiring a bed bug detection dog, here are some tips:

- Get a dog that is healthy, has a good temperament and is willing to work.
- Rather than bringing in a dog for training, experts say you're better off letting the trainers select the dog and you buying the preselected, trained dog.
- Buy from a trainer that offers a good guarantee.
- A single-disciplined dog is better than a cross-trained dog.
- Realize that having a dog is a huge commitment. Dogs require dedicated handlers and daily, documented training to retain certification accreditation status.

For more information, visit [www.jkk9.com](http://www.jkk9.com).

of the eggs present because they are glued in place by egg-laying females. PMPs may be hesitant to apply pesticides to mattresses or upholstered furniture, so vacuuming provides an additional tool.

“We then follow the vacuuming with a thorough steam application,” Frank explains.

While vacuuming sucks up bed bugs, many PMPs use steam to provide an immediate bed bug kill. There are a few good steaming units commercially available to the industry from various manufacturers. Those experienced with the use of steaming units caution, however, that PMPs should know the capabilities of the units they are considering before making purchase decision.

Ideally, a steam unit will hold more than two quarts of water, have a short cycling time, come with various applicator tips and produce sufficient pressure to penetrate into cracks, crevices and upholstery folds where bed bugs and their eggs may be hidden.

A superior steam unit will have a reservoir so it can be constantly refilled during operation which saves a lot of time.

“A wide tip should be used to avoid blowing bed bugs away with blasts of steam before they are killed by the heat of the steam,” explains Michael Potter, a professor and urban extension entomologist at the University of Kentucky. “Steaming is a slow process and must be done thoroughly to attain maximum kill.”

Additionally, some PMPs are recommending the use of a towel with a wide steam nozzle to help hold and deliver the steam heat to treated surfaces. But some prefer to work without a towel.

“It’s best to learn what works best for you,” Frank adds. “Each case can be different.”

## **MATTRESS COVERS A MUST**

The treatment of mattresses, box springs and furniture continues to be a concern. Experienced PMPs agree that the bed, bed frame, headboard, nightstand and the close

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surrounding areas are where the most activity will occur.

“Source elimination is a prime concern for us,” says Stephen Gates, Cook’s Pest Control’s director of technical services. “We have all infested bedding carefully wrapped and discarded rather than try to treat it. The new bedding is wrapped in bed bug-proof mattress covers to eliminate the mattress and box spring as a harborage for bed bugs”.

Cooper is another proponent of mattress encasements: “It takes a long time to properly inspect, vacuum or steam the mattress and box spring. Having encasement covers in place reduces that time and takes away one of the prime harborage locations.”

## CHEMICALLY SPEAKING

Eric Snell, president of Snell Scientifics in Barnesville, Ga., has conducted many bed bug pesticide exposure studies. He notes it can take a long time for bed bugs to pick up a toxic dose from a treated surface — especially porous surfaces, where they are likely to be in typical field situations.

“I’m not sure that a bed bug is going to be killed by simply walking across a 12-inch-wide treated band of carpet,” he says. “It’s much more important to get the treatment to the harborage, where the bed bug will be contacting the residual and increasing the exposure time.”

An adult bed bug is built “flat,” allowing it to get into the smallest of cracks and crevices. Bed bug eggs and immature nymphs are smaller yet, broadening the potential hiding places. After an application, PMPs are counting on the bed bug to pick up a toxic dose of insecticide from a treated surface for a residual effect.

## SUMMARY

At one location the author visited recently, bed bugs were almost everywhere. In one apartment bedroom alone, there were more than 200 smears of crushed bed bugs on the walls where the residents had squashed them.

It is apparent that bed bugs are here to stay, and the problem is growing.

“Bed bugs are not a simple problem to get rid of,” stresses Frishman. “They require knowledge and a willingness to work hard. As an industry, we are needed more now than ever.” **PMP**

**Bed Bugs – What’s Really Working (Part 2) will run in April.**

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