

PMPs add cryogenic technology to blast bed bugs into a deep freeze.

# Xtreme Measures

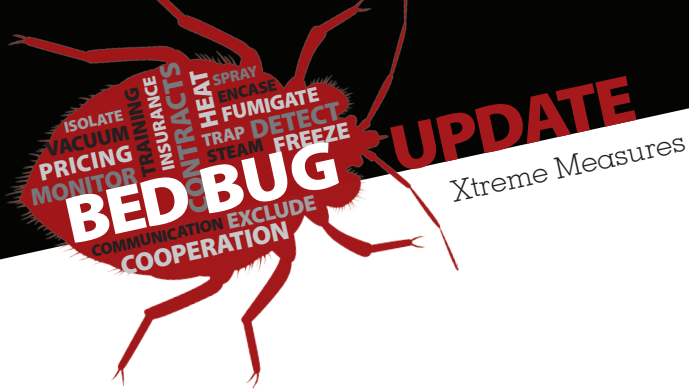
Kate & Jeff McGovern Contributors

Photos by Fred Miller, [fmfotofm@aol.com](mailto:fmfotofm@aol.com)

Introducing bed bugs to climate change.

**H**ere we go: Yet another bed bug article. Bed bugs are just bugs. We manage them by spraying, fogging, baiting, bombing, trapping, fuming, heating and now freezing. The key to successful management is related directly to the layers of intervention and incorporation of several methods employed to address a situation. The decision to implement different technologies or expand services rests on a clear, honest assessment of your goals and resources and a business plan that harnesses them.

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If you hear a growing sentiment among your customers for greener options, if you have sensitive accounts where chemical use is a concern, if you don't have a lot of space in your truck or office to store bulky equipment, or if you need an easy-to-learn and -maintain process — consider cryogenic technology.

### Fact vs. Fiction

Cryogenic equipment use is relatively new to the pest management industry and has suffered misuse, abuse and misunderstanding since its introduction into the United States. Here are just a few misconceptions:

Bed bugs, eggs and blood spots cover the bottom of a piece of furniture.



With gloves, goggles and a protective suit, this PMP is ready with rifle in hand.

### 1 I can take a fire extinguisher and freeze bugs. Wouldn't that be just as good?

Silvandersson, a Swedish company, developed the Cryonite machine to convert liquid carbon dioxide (CO<sub>2</sub>) into a dry ice snow with an average temperature of -108° F. The snow is a mixture of small, medium and large particles sprayed in a controlled manner that evaporates into CO<sub>2</sub> gas. Because there's no liquid or chemical, it can be sprayed directly into outlets, food preparation surfaces, machinery, electronics, textiles, etc., without shutting down operations or requiring evacuation.

The gun provides measured control to spray snow on the insect, immediately dropping its body temperature to -108° F and killing it on contact. Even though insects are able to survive extreme temperatures often, it's the transition from ambient body temperature to extreme freezing that results in immediate death. By contrast, unregulated blobs of CO<sub>2</sub> (like you'd find using a fire extinguisher) tend to form igloos that insulate an insect until its body temperature returns to normal when the snow evaporates and it scurries off.

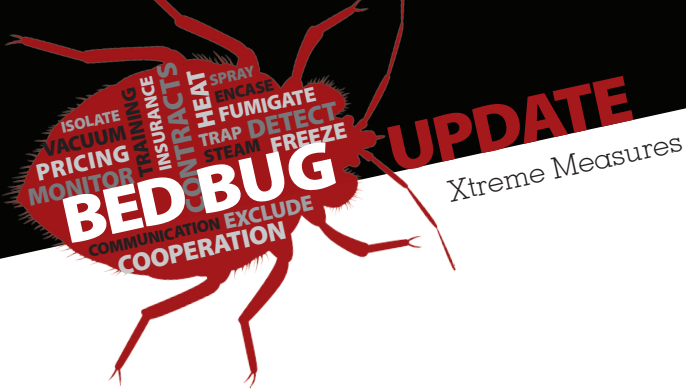
### Edwin Rivera, Pest2Kill, Yonkers, N.Y.

Edwin Rivera saw his first Cryonite machine while working for another pest control company. Now, the owner of his own company, Rivera ordered his first unit after attending a Bug Off Pest Control Center seminar.

Rivera was eager to fold it into his layered approach of vacuuming, dusting voids, cryo, using insect growth regulator (IGRs) and, when necessary, using pesticides. Although he began with bed bugs, Rivera now offers a cryo program for cockroaches. His clients — many of whom are elderly, have difficulty clearing spaces for treatment or are chemically sensitive and want to avoid pesticides — appreciate this effective and less-disruptive option.

Rivera says his first unit paid for itself after only a few jobs, and he intends to purchase a second one.

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**2 Cryonite just blows bed bugs all over, spreading the problem.**

Running a unit full-bore with the trigger completely pulled makes a lot of noise and can be entertaining, but to use this equipment and technology to its full advantage requires finesse. Learning to lay a light coating of snow that instantly kills insects — without blasting the bugs into the ceiling — is a skill acquired with practice. The technique works equally well for cracks and crevices as it does for broad surfaces.

**3 We just treated an apartment unit and now, a week later, the client still sees bed bugs.**

There are many reasons why one finds bed bugs after a treatment. The first place to check are the areas adjacent to the treatment site: Are they infested? If so, what's the plan for them? Was the prep work done properly? Now comes the critical part for thermal (heat or freeze) treatments: Does the customer understand the process only kills the insects it makes contact with at the time and there's no residual to kill ones in the future? Various residuals are applied separately.

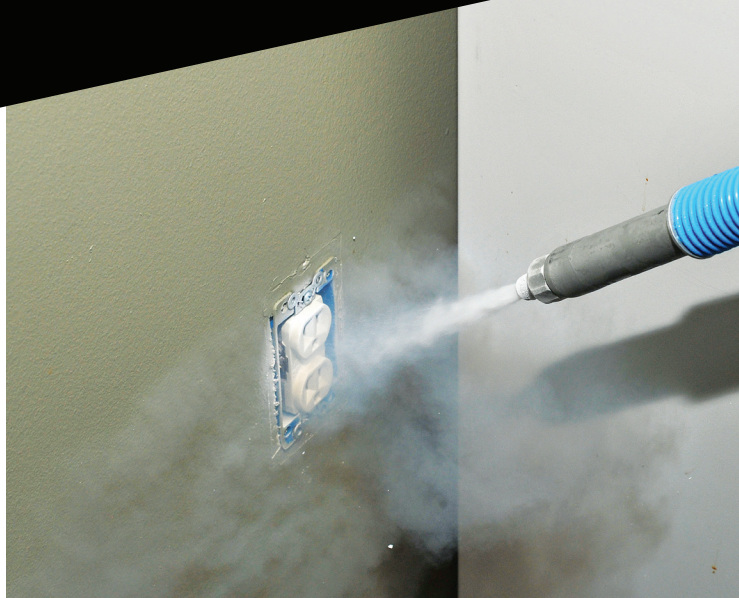
The skill of the technician also is a critical factor. Attention to detail and thoroughness is an essential mindset, along with the ability to explain to the customer that treatment isn't one and done. Treatment of most pest problems is a process, and many consumers don't realize that. Plus, with the Internet, clients will keep you on your toes with what they've learned, be it true or false.

**4 Using liquid CO<sub>2</sub> damages the ozone layer.**

The liquid CO<sub>2</sub> used in the tanks is CO<sub>2</sub> recaptured from industrial activities. The rerelease of CO<sub>2</sub> as a gas during a cryo treatment is negligible and doesn't change the balance of gases in the atmosphere.

**5 Cryogenic equipment is expensive.**

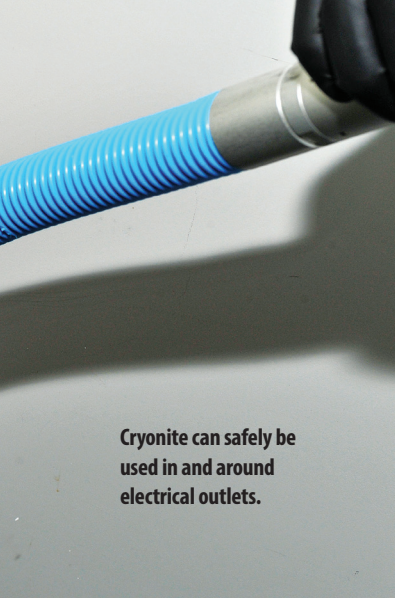
"Expensive" is a relative term, and there are many ways to view this. Buying any piece of equipment without a plan for incorporating it into your business model is expensive. A piece of equipment gathering dust in the corner of an office that's only used occasionally for a special job is expensive. Having a dedicated



The technique works equally well for cracks and crevices as it does for broad surfaces.

technician use equipment that complements what you do already and allows you to open your business to places you haven't been able to go is priceless.

Andy Linares, owner of New York-based Bug Off Pest Control Center ([www.bugoffpccenter.com](http://www.bugoffpccenter.com)) is the exclusive distributor of Cryonite in the U.S. He sells two versions of the cryo system: The Rifle (\$3,900 including shipping) and The Lance (with an extendable reach of 18 in., \$5,900). Both include a cart, hose, jet nozzle, gloves, goggles and instructional DVD. The CO<sub>2</sub> canisters



Cryonite can safely be used in and around electrical outlets.

aren't included but are available locally in most areas of the country and are refillable. How long a canister lasts depends on the operator and the complexity of the environment. On average, a 20-lb. tank can treat about 1,200 sq. ft., but if there's furniture, shelves, etc., it could require more. A 1,200-sq.-ft. empty space probably would take less.

### 6 **Cryo control only works on bed bugs.**

Cryonite was developed originally for use in food plants to kill stored product insects without having to shut down facilities. In addition to stored product insects and bed bugs, it's also incorporated as a primary kill component in German cockroach and flea management programs.

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### **Stuart Aust, Bed Bug Doctor, Paramus, N.J.**

Aust has many upscale customers who demand little or no toxicants when confronting their pest problems. As a member of the Business Management Team of the National Pest Management Association (NPMA), Aust listened to what others had to say about various options.

Canines, for example, were popular, but they represented financial and personal commitments that didn't fit his business model. Looking to heat, trailers meant additional equipment investment and manpower to move customer belongings in and out of treatment areas. More manpower meant additional property and employment liabilities. Aust decided to keep looking.

Aust met with Henrik Björkqvist, Silvandersson's Cryonite business development manager, and Andy Linares of Bug Off Pest Control Center during an NPMA PestWorld event and discovered the Cryonite machine. The prep work fit his operation and enabled him to offer add-on prep services for appropriate accounts, such as schools, hospital emergency rooms, blood donor areas and places with introduction problems rather than infestations. They can be treated discreetly, chemical-free and with minimal disruption. A new pregnant client investigated various treatment methods and was thrilled to find a nonchemical, safe and effective answer.

Aust has watched his hard work pay off in steady sales growth he attributes to cryo. He advises other pest professionals to research the product.

An advertisement for Cryonite. The background is a solid blue color. In the center, two spray nozzles are shown. One nozzle is angled upwards and to the left, with a white spray of carbon dioxide snow being emitted from its tip. The other nozzle is angled downwards and to the right. Overlaid on the image is the text "INCREASE YOUR PROFIT" in large, white, bold, sans-serif capital letters. Below the text, there are two paragraphs of white text. At the bottom right, the Cryonite logo is displayed in white, with the tagline "The easy way to stay cool" underneath it. The logo consists of the word "CRYONITE" in a stylized font with a registered trademark symbol, and the tagline is in a smaller, simpler font.

Cryonite is an environmentally friendly and patented technology that makes use of carbon dioxide to freeze insects to death. The patented nozzle ejects a carbon dioxide snow of optimum particle size and speed that quickly eliminates insects.

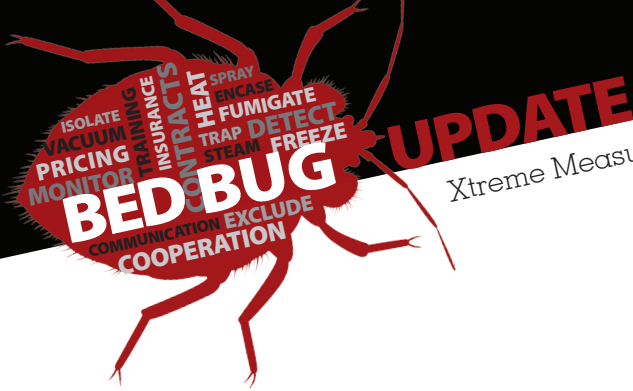
Cryonite is a 100% organic method that does not leave residues or require post-treatment work. This minimizes the production downtime, which reduces costs. For example, in the dry food industry with extensive crawling insect problems and in hotels for combating the rising problem of bed bugs.

It is ideal for use in areas such as electrical products, wall switches, etc.

You as a PCO can offer your clients a service that enables them to avoid pests quickly and efficiently without financial repercussions. It is valuable and will allow you to increase your profitability.

[www.cryonite.com](http://www.cryonite.com)

**CRYONITE**<sup>®</sup>  
The easy way to stay cool



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## Beyond Bed Bugs

Although bed bugs dominate the cryo control market, the process has infinite potential in the chemical-free fight against pests. Imagine being able to kill any creeping, crawling insect at all stages of its life cycle: adult, larval, egg. Imagine being able to treat food contact surfaces and areas without extra prep work, just the normal hygienic protocols.

Here are just a few other pests cryo can put the deep freeze on:

■ **Stored product pests** — Cryonite has been used in Europe since 2004 to kill every kind of stored product insect, from moths to beetles. Technicians treat crack, crevices, machinery, conduits, outlets, etc., with no disruption of regular sanitation routines, no evacuations and minimal downtime.

■ **German cockroaches** — Cryo technology, in conjunction with spatial monitoring and a rigorous vacuuming regimen, has been used in commercial food-processing areas and residential accounts to clear German cockroach infestations. Freezing and vacuuming are a powerful combination to decimate any insect population.

■ **Stingers (wasps, bees and hornets)** —

This is a new use of the process and shouldn't be approached without a thorough understanding of these insects and their lifestyles. In the case of bees, you must also have a current knowledge of your state and local laws concerning pollinators and management of feral bees.

If you have a small void, such as an electrical box, you can shoot the snow into it and kill the insects and their nests

PMP, Cesar Soto, carefully assesses the application site.



## Cesar Soto, Freedom Pest Control, Bronx, N.Y.

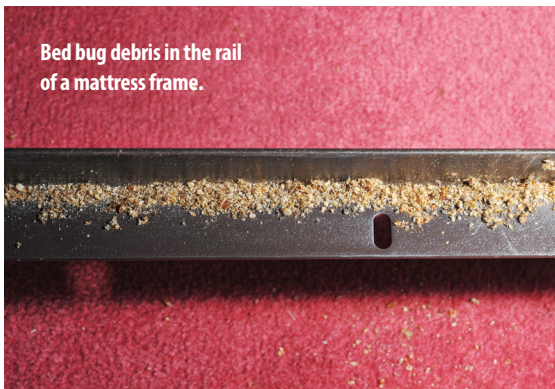
Soto owns New York's first National Entomology Scent Detection Canine Association (NESDCA) Bed Bug detection dog, Tre. The duo are no strangers to publicity: local news, reality TV (*Clean House*) and several online blogs. Soto added heat treatment in 2002 and continued to seek methods that were green and effective to add to his arsenal.

Soto's first encounter with cryo equipment in 2007 wasn't positive because he had many questions (particularly about penetration) and couldn't get answers that satisfied him. It seemed like a gimmick, but that changed when he attended a Bug Off Pest Control Center Bed Bug Seminar where he had one-on-one, hands-on time with experts.

He started practicing with the gun right away at home and gained confidence in the technology. Even Tre got into the act: Soto had the dog test a sample of bed bug eggs because they're the most difficult to kill. Tre correctly alerted to live activity, then the sample was treated with Cryonite and then tested again by the dog. No alert, no live activity. They were ready to go.

Soto is training a dedicated tech for cryo jobs. To get the hands-on time to learn in the field, he has several charity accounts to use as teaching opportunities. Many of the accounts are chemically sensitive (elderly, those recovering from cancer treatments) and don't have the funds for treatment. So the tech receives the training and practice he needs, and the recipients receive the chemical-free relief they desire.

Bed bug debris in the rail of a mattress frame.





Applying a residual top dressing after a cryo treatment.

with the eggs and larvae. The key is to drop the temperature inside the void quickly. If the void is too large or you're too slow, you can get stung. Likewise, waving the wand in the air at flying insects won't lower their body temperature sufficiently to kill them.

■ **Museum artifacts** — Cryonite, which doesn't stain, can be used to destroy moths, mites and other common museum pests. No chemicals are left behind, but it's important to make sure the items to be treated won't be harmed by freezing temperatures.

### Now What?

We depend on the health and well-being pest management represents in our lives. Now is also a time when more people are aware of the damage that exposure to certain chemicals and practices represent. The demand for nontoxicant products and thermal treatments increases steadily. Sadly, inappropriate and inept freezing treatments by rogue technicians and others who don't take the time to develop and

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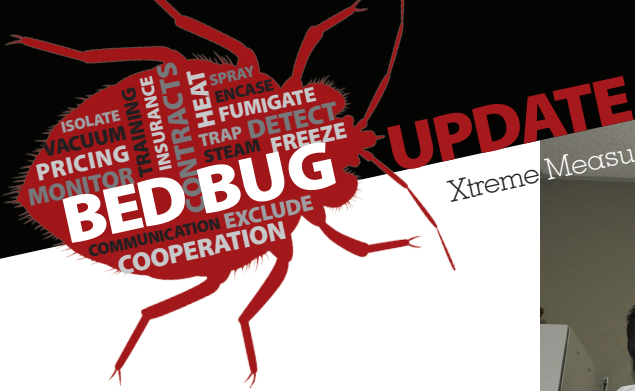
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**UPDATE**  
Xtreme Measures

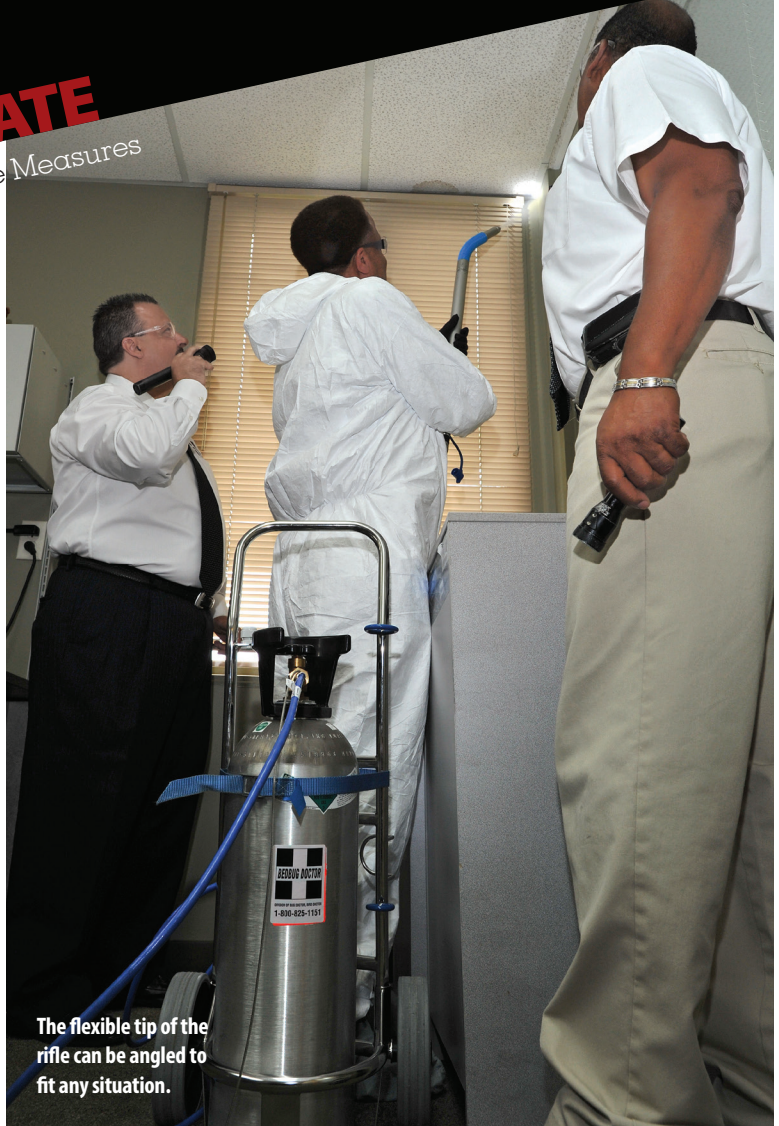
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follow a treatment protocol have created an undeserved black eye for the freezing process. This will be overcome as pest management professionals (PMPs) realize the advantages of cryo and incorporate it into their offerings across the board, not solely their bed bug services. The process is green and nontoxic, and insects can't build resistance to it. It can be applied everywhere, is cost effective and has numerous possibilities. **PMP**

You can reach the McGoverns at [jeffreymcgovern@mindspring.com](mailto:jeffreymcgovern@mindspring.com).

### Resources

Silvanderson: [www.cryonite.com](http://www.cryonite.com)  
 Stuart Aust: [www.bugdoctorinc.com](http://www.bugdoctorinc.com)  
 Andy Linares: [www.bugoffpccenter.com](http://www.bugoffpccenter.com)  
 Edwin Rivera: [www.pest2kill.com](http://www.pest2kill.com)  
 Cesar Soto: [www.expelpests.com](http://www.expelpests.com)



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