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Using Radar to Locate Bugs

By Dawn Shoemaker

Radar, a trained dog, was called in to assist an apartment owner on the Upper West Side of New York with “finding the B’s.” He soon began looking and sniffing in every nook and cranny of the



apartment until suddenly he stopped. Underneath books, boxes, and clothing, Radar focused on a shoebox, and sure enough, inside the box was a single, plump, recently fed bedbug.

Radar’s impressive investigative abilities benefit his employer, a company called Advanced K9 Services – and the hundreds of homeowners, hotel properties, and other facilities that hire the company to locate bedbugs and other pests. Carrying a price tag of \$9,500, Radar’s training has

taught him to smell for live bugs, as well as hatching insect eggs, fecal matter, and the cast skins of bedbugs and other pests.

Using dogs to sniff out bedbugs and other pests is a new industry that is becoming more and more common.

According to a study conducted by the University of Florida, these dogs are 98 percent accurate in their ability to locate live bugs in all types of facilities, including hotel rooms.

While you may find this interesting, you also may wonder how big a concern pest infestation – especially from bedbugs – is in the United States. Unfortunately, the problem has been growing rather dramatically in developed countries around the world. Largely eliminated after World War II, these tiny, reddish-brown bedbugs are not only back, they are bigger and harder to kill than ever before. They typically live in the crevices and folds of mattresses, sheets, chairs, and sofas until they emerge to feed on human blood, usually right before dawn.

The bedbug problem has grown to such an extent and become so serious in apartment buildings and hotel properties that the U.S. Environmental Protection Agency has just completed its first-ever bedbug summit in April 2009. The meeting sought to determine the specific reason(s) for the bedbug invasion, which is not thoroughly clear. However, and of special interest to hotel properties, it is believed that the problem is building because of increased international travel. The bugs essentially hitch-hike from under-developed countries to developed countries, where they often survive and soon multiply.

Why is this happening? And in this day and age, don't we have ways of eradicating these pests? From the 1950s through the 1970s, several new and potent insecticides were introduced that were generously used to eradicate all kinds of insects and pests, including bedbugs. For the most part, these systems proved very effective and insect problems appeared to be a problem of the past.

However, as we learned more and more about how these insecticides work and some of the damage they can cause,

especially DDT (dichlorodiphenyltrichloroethane), state and federal governments intervened, either banning their use outright or significantly limiting it. But this does not mean we have to learn to live with more bedbugs and other insect pests. Hotel managers simply need to think more creatively and come up with more innovative ways to eradicate pests, while still protecting the health and safety of hotel guests and staff and being responsible to the environment.

They're Getting Too Smart

When referring to pest eradication, becoming more creative and innovative may be easier said than done. For example, the old insecticides, which were very effective initially, were beginning to show weaknesses. Although they could kill most of the problem insects in a hotel property, such as bedbugs, cockroaches, and other creepy crawlers, a small fraction of the insects had a higher tolerance and could resist the insecticide.

These stronger insects would then breed and pass on their ability to withstand the insecticide to their offspring. One way we have learned to outwit these smart bugs is to try

and eradicate them using a variety of insecticides, instead of just using one or two over and over again. Some experts refer to this as the “2+2=5” strategy because the use of multiple pesticides almost always insures total pest eradication.

“However, the problem with this method is that we are still using very powerful chemicals that are potentially very harmful to [human] health and the environment,” says Mike Sawchuk, vice president of Enviro-Solutions, a leading manufacturer of Green cleaning products and a frequent author on the subject. “Most hotel properties are working especially hard to make their facilities Greener and healthier. Using these toxins just does not fit that objective.”

Heat

Assuming your hotel property has bedbugs or other insects and you are looking for a more environmentally friendly way to eradicate them, try a new approach: heat. According to Dr. Hanif Gulmahamad, a pest management professional, bedbug eggs have been killed after being exposed to 113 degree Fahrenheit (F) heat for one hour, and very young

insects, as well as adults, die after about 15 minutes of exposure to approximately the same temperature.”

Heat of about 130 degrees F also has been used to kill many other types of insects. It normally takes seven minutes for a German cockroach to die, about six minutes for termites, about four minutes for a beetle, and one minute for an ant.

The way the system works is relatively simple. The entire area, for instance the hotel room or a series of rooms, is closed to visitors and staff. Heat is mechanically pumped in through air ducts. Typically items that can be adversely affected by the heat, such as candles, paintings, or food items, are removed from the treated area. The entire procedure is monitored using thermostats and computers, and normally takes about one day.

“Heat can be a good option when a serious [insect] problem exists,” adds Sawchuk. “It can eliminate the bulk of the problem, is environmentally responsible, and is safer than older, chemical-focused methods. I also would recommend

that the area be thoroughly vacuumed after the treatment as well.”

Vacuuming Up the Aftermath

Michael Schaffer, president of Tornado Industries, manufacturers of professional cleaning equipment and tools, also recommends a thorough vacuuming of the hotel guest room after treatment. “Recent studies have confirmed that it is the airborne remains of cockroaches that trigger asthma attacks in children,” he says. “After heat treatment, these remains must be removed or hotel administrators will have solved one problem, eradicating the pests, only to substitute it with another: poor indoor air quality.”

Schaffer has two suggestions for vacuuming rooms after heat treatment. The first is to use a *true*-HEPA vacuum cleaner and the second, to use a backpack vacuum cleaner. “The reason for the HEPA is obvious,” he says. “With 99.97 percent efficiency at 0.3 microns, virtually all impurities are captured and trapped. And the fact that the vacuum is a

'true' HEPA means that the casing and the entire unit is air tight, so no impurities escape from the machine."

But why use the backpack? Schaffer explains that because carpets, mattresses, chairs, sofas, and so many surfaces need to be vacuumed, the versatility of a backpack makes it an obvious choice. "Also, because this is very detailed work, administrators should select equipment that is 'whisper' quiet," he says. "Quiet is really a Green and ergonomic feature because it helps to protect the health of the operator, reduce fatigue, and improve worker productivity."

Long-Term Eradication

If we were discussing ways to minimize pest infestation in offices or schools, some of the steps – such as reducing food availability, keeping all areas dry, wiping up spills as quickly as possible, and removing trash – would all be applicable. However, this is more difficult in a hotel guest room, where consuming food and drink in a relatively small area is common.

“The best we can do is maintain proper cleaning and vacuum standards and continually monitor the situation,” says Schaffer. “When housekeepers find food or drink on carpets, upholstery, or other surfaces, they should take that as a warning sign that pests may soon arrive, unless areas are thoroughly cleaned as soon as possible.”

Additionally, he recommends that hotel administrators take any complaint of a bug bite or bug spotting as serious. “If just one bug is present, it can mean scores more are hidden away and multiplying very quickly,” says Schaffer. “A single female can easily infest an entire guest room in a very short period of time.”

Dawn Shoemaker is a writer for the professional cleaning industry.