



SPECIAL REPORT

Bed Bugs in Office Buildings: The Ultimate Challenge?

By Larry Pinto, Richard Cooper & Sandra Kraft

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Bed bugs continue to generate dramatic newspaper headlines throughout North America, prompting thousands of calls to PMPs from concerned customers from Maine to California. Historically, most of these calls have come from homeowners, college administrators, military bases, hotel managers, public housing officials and members of the hospitality industry. However, in recent months an increasing number of calls are being generated by managers of office complexes as bed bugs move into these highly sensitive locations.

Controlling bed bugs in office buildings poses some unique challenges. Not only is it a complex environment, but unlike residential settings early detection is rare, visual inspection is difficult, bed bugs are usually dispersed over a large area, identifying the point of introduction is problematic, bed bug reintroduction is a constant threat, and legal, ethical and human relations issues abound.

That's why MGK – offering the first fully integrated portfolio of pest management products specially designed for the bed bug market – is so pleased to provide the industry with this comprehensive “Special Report” on successfully addressing the problem of bed bugs in office buildings. We're confident it will fast become the industry's “best practices” document for managing this increasingly ubiquitous pest.

And if and when it becomes necessary to apply insecticides in office buildings to control bed bugs, MGK offers one of the industry's most comprehensive portfolios of bed bug products, providing integrated solutions and superior results. Among the products in our ever-expanding product line is Bedlam® Aerosol, which is effective against both bed bugs and their eggs; Onslaught® Microcap, a residual insecticide in a long-lasting microencapsulated formulation; PyGanic® Dust, a botanical insecticide offering fast kill; and Exponent® Synergist, providing enhanced efficacy and inhibiting MFO resistance. MGK also recently introduced the new altoCIRRUS™ fogging concentrate that includes crack and crevice flushing of bed bugs on the label.

We hope you find this “Special Report” to be a valuable educational resource for both your technicians and commercial customers, resulting in increased business for you and your company. It's just one more way MGK is supporting its customers and the pest control industry in its ongoing battle against this important public health pest.

Sincerely,

Ian Thorburn

Ian Thorburn
Market Manager, Branded Products
MGK
Minneapolis, Minn.





About the Authors

Larry Pinto, Richard Cooper and Sandra Kraft are the authors of the “*Bed Bug Handbook: The Complete Guide to Bed Bugs and Their Control*,” which is available from the PCT store (www.pctonline.com/store and www.amazon.com).

The authors are entomologists and pest management professionals with extensive experience dealing with bed bugs.

The “*Bed Bug Handbook*” is a complete and up-to-date guide to bed bugs and their control. Extensively illustrated and featuring more than 250 pages of content, the handbook provides practical, step-by-step guidance for preventing bed bug infestations and controlling outbreaks.

It includes details on bed bug inspections and methods of control including mechanical (encasements, vacuuming), thermal (dry heat, steam and cold), insecticide treatments and fumigation.

It also includes chapters on bed bug biology and habits, how bed bugs spread, business and management considerations, and medical and social impacts. There are also checklists for preventing and controlling bed bugs in apartments, hotels, furniture rental warehouses and other sites.

The authors would like to thank Robert M. (Bobby) Corrigan, Ph.D., for his review and contributions to this article.

As bed bugs continue to rear their ugly heads in a variety of locations, the detection and control of bed bugs in office settings has proven to be time consuming, complicated, frustrating and expensive. This guide is meant to help both pest management professionals as well as office management through the treatment process.

By L.J. Pinto, R. Cooper, and S.K. Kraft

Bed bugs are the toughest problem in pest control. Mostly, we deal with them in sites where people sleep: apartments, dorms, hotels, private homes and the like. We have effective tools for addressing bed bugs in these locations, even though successful control can be difficult and expensive. But these aren’t the only sites with bed bugs. Now, we see bed bugs in a variety of nonresidential sites, and they are becoming increasingly more common in the commercial workplace.

The increase of bed bug activity in such sites should come as no surprise. After all, there are plenty of bed bug-infested homes. Since bed bugs are great hitchhikers, transferring to new locations on purses, briefcases, clothes, shoes, books and other items, why shouldn’t they also hitchhike from some infested location into the workplace? Turns out, they do! Bed bugs are carried into the workplace by employees, vendors, custodial staff, and others. Visitors may also bring bed bugs

into office buildings, especially into public areas of government office buildings (think of waiting

rooms in the unemployment office, DMV, etc.).

Over the past year, the authors have dealt with a number of bed bug outbreaks in office buildings. The infestations have ranged from small localized infestations covering a few hundred square feet, to infestations on multiple floors in high-rise office buildings, covering hundreds of thousands of square feet. Detection and control of bed bugs in office settings have proven to be time consuming, complicated, frustrating, and expensive.

This article addresses some of the problems with bed bugs in office settings, and presents some strategies and tactics we have learned along the way.

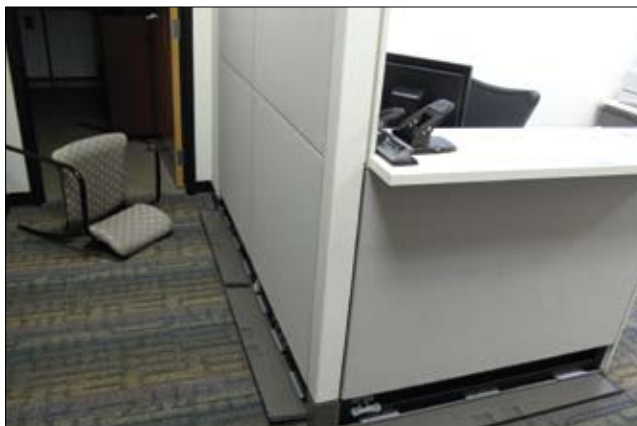
Why Bed Bugs Pose Special Problems in Office Buildings

An office building is not a good place to earn a living if you are a bed bug. It is much different from traditional habitat where hosts are available, inactive, unaware, and in the dark (see *Bed Bugs: Home Versus Office* on page 6). Unlike in residential settings, bed bugs do not have sleeping and resting areas to infest; instead they tend to wander and spread around the office before anyone is aware of them. Bed bug numbers tend to be low, increasing by periodic reintroductions rather than through reproduction. By the time a pest management professional gets involved, the bed bugs can be located almost anywhere. Here are the reasons why bed bugs pose special problems in office buildings:

1 Early detection is rare. Bed bugs often go undetected in office buildings for long periods, and by then their distribution may become widespread. Early detection is rare not only for the typical reasons (most people do not recognize bed bug bites, many people exhibit delayed reactions or no reaction to bites, and bed bugs are secretive and cryptic) but also because when bed bugs first appear in office infestations, office workers are only rarely bitten and bed bugs are rarely seen. Think about it: Bed bugs are typically active at night when few people are working. During working hours, an office tends to be brightly lit, noisy, and full of activity... not a good feeding environment for the secretive bed bug. Furthermore, bed bugs can go for months or longer without feeding. In our experience, office workers typically do not get bitten until bed bugs have adapted their feeding patterns and begin seeking a blood meal during the daytime hours when a host is present. The exception is when the office space is operating on a 24/7 schedule.

2 Visual inspection is difficult, time consuming, and prone to failure. In offices, there are no beds or other traditional bed bug sites. Rather than clusters of bed bugs as in a home, there are typically single bed bugs or small groups spread throughout the area and the areas that the bugs are gravitating to can be difficult to inspect. Bed bugs will hide in cubicle dividers, underneath raised floors, beneath cove moldings, in folders and files, even in computers and other equipment.

3 Bed bugs disperse into other areas. Bed bugs disperse in two ways: walking or hitchhiking. It's hard to determine which is more important in offices. Our work with bed bug detection dogs suggests that bed bugs often travel in straight lines following aisles made by the base of cubicle dividers



An office cubicle that has been prepped for a bed bug treatment. (Photo: Bed Bug Central)

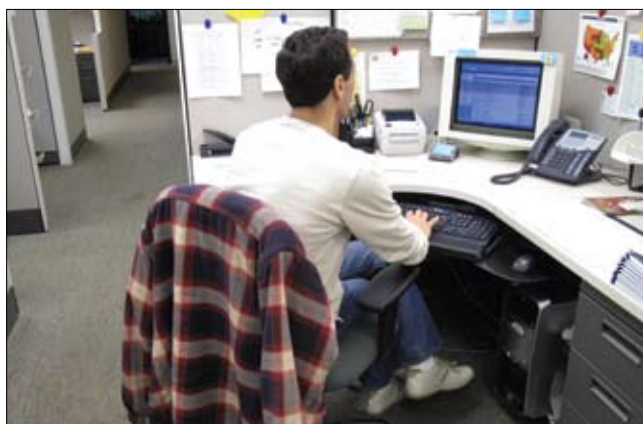
and along cove moldings at the room perimeter. We have also seen evidence that they travel inside subfloor conduit runs. Bed bugs also move around the office and to other floors within a building...or even to other buildings occupied by the same company... hitchhiking on files, boxes, and personal items.

Try to identify the common operational and social connections between workers in an infested workspace and other locations. But be aware that this identification can be difficult, even controversial. Such connections include the mail room, co-workers that commonly visit one another, and the exchange of files and other materials between individuals in the same department, different departments or even different buildings. There are also areas where staff or visitors gather such as reception areas, around copiers, lounges, and break areas.

Another major concern is the spread of bed bugs during the cleaning of the building. Most office buildings are cleaned during the nighttime hours, when bed bugs are most likely to be active. Cleaning services will often store service carts and supplies, including vacuums, onsite. These can become infested and spread bed bugs into other areas of the building.

4 Identifying the point of introduction is challenging: Even when it appears obvious (i.e. infestation is limited to a specific cubicle) it is inappropriate to assign "blame" to anyone for the infestation of the workplace. The bugs may be infesting a single cubicle but were introduced by an individual in a nearby cubicle, or were received in a shipment of files from another location. The bugs also could have been brought in by a visitor or a vendor.

5 Reintroduction of bed bugs is a constant threat. Unless the sources of introduction have been completely eradicated, reintroduction of bed bugs into the workplace is likely to continue. The primary source of bed bugs in an



Worker-related issues, such as morale, pesticide concerns and cooperation, must be addressed. (Photo: Bed Bug Central)

office is often the home of one or more workers. Although home treatment is often critical to eliminating the office bed bug problem, neither the employer or the pest control company have a right to inspect or treat these homes without permission. Repeated reintroduction of bed bugs is exasperating for all concerned.

6 Some items in office settings are difficult and expensive to disinfect. It is unclear how common it is for bed bugs to get into computers, copy machines, faxes, file cabinets full of confidential information, telephones, security devices, and personal items. These items may require special treatment on or off site. When treated by heat or fumigation off site, packing and shipping can be very expensive.

7 Office bed bug control presents a host of unusual issues. Bed bugs in an office pose very sensitive legal, ethical, and human relations issues; issues that can become flashpoints for conflict. Examples include the following:

- Worker perceptions that the workplace is unhealthy because of the risk of bed bug bites, allergic reactions, or from the perceived health risks from insecticide treatments.
- Worker anxiety about taking bed bugs home.
- Confidentiality concerns about other employees finding out that an employee has bed bugs at work or at home.
- Legal implications of an employee being blamed (rightly or wrongly) for the infestation at work.
- Legal implications of the employer being blamed (rightly or wrongly) for the infestation of homes from bed bugs at work.
- Office management and staff often define the word “infestation” differently than do pest professionals. To many people, “infestation” implies a widespread and large population of bed bugs that is reproducing and growing, which is not the typical situation in offices. Use the word sparingly.

If these issues aren’t handled well, they can quickly degrade into work actions (including workers’ compensation claims), union disputes, complaints to the health department, and even lawsuits.

Education of the Client

The presence of bed bugs in the workplace is a politically sensitive subject and involves facilities, human resources, public relations and risk management decisions that can have significant financial and legal implications. Key decision makers need to be educated about bed bugs. They should be familiar with the myths and misconceptions associated with bed bugs along with the challenges of bed bug management, including the limitations associated with many of the control methods,

Major Decisions for Property Managers

Management needs to make many tough decisions when dealing with the issues associated with bed bugs in an office setting. If these issues are not addressed properly, the risk of failure increases. Decisions are best made through a team approach, consulting with the office community and the pest management professional.

- *Disclosure and Education.* Should information about the bed bug infestation be disclosed to the office community? If so, what specific information and to how wide an audience? What methods should be used to educate the office community (seminars, fact sheets, websites, etc.)?

- *Resources for Workers’ Homes.* What assistance, if any, will be provided to workers to deal with bed bugs at home? Examples include education (through handouts, seminars, etc.), free or partially subsidized home inspections and home service, encasements, interception devices, and use of portable heating units.

- *Scope and Intensity of Service.* Which areas of the office will be serviced? How many service visits will be scheduled? What will be included in the service (insecticide applications, heat treatment, steam treatment, cold treatment, vacuuming, etc.), to which sites, and how intensive will it be? What actions will be taken to deal with the contents (files, computers, personal items, etc.) contained within individual office spaces? Examples include doing nothing, having the items heat treated or fumigated, or having them isolated and inspected by a canine detection team.

- *Ongoing Monitoring.* Once service has been completed, how will the office be monitored to detect new infestations (see *How to Inspect for Bed Bugs*) and for how long?

particularly chemicals. A well-educated client is better able to make the tough decisions required for bed bug infestations in offices (see “Major Decisions for Property Managers”).

Informing Workers About Bed Bugs

Should office management tell staff about the bed bugs? When they learn that their office has bed bugs, some workers will become disturbed, angry, or scared. Disclosure may lead to discrimination and unfair treatment of staff members whose work stations are infested. And there is always the risk of litigation. Conversely, failure to disclose the problem sets the stage for control failure, constant reintroduction of bed bugs, and litigation from staff members who are angry that they were not warned about the infestation so they could take measure to avoid taking bed bugs home.

Without disclosure all inspections and treatments must be handled in a “covert” manner, late at night and on weekends, which adds complexity and expense. Additionally, if it “gets out” that there are bed bugs (which it eventually will), and that it is being kept “a secret” by management, the potential for legal action is greatly increased.

Disclosure is perhaps the most difficult decision facing the property manager and ultimately is a human resources and risk management decision. The authors recommend that management disclose information about the infestation to staff members, and as soon as possible. The longer that the truth is withheld, the more difficult it becomes to disclose. The first question that will be asked by staff is, “Why were we not told about this sooner?”

Pest professionals can play a role here, helping to prepare factual information and providing educational presentations for staff members.

Bed Bugs: Home Versus Office

The behavior and ecology of bed bugs in office settings are different than in homes. In general:

In homes, bed bugs concentrate around sleeping and resting areas; in offices, the bugs wander and spread into less predictable locations.

In homes, bed bugs feed, mate, and populations increase primarily through reproduction; in offices, populations tend to grow slowly, primarily through new introductions.

In homes, populations can increase to high numbers; in offices, the total number of bed bugs is typically low.

In homes, bed bugs are active and feed at night; in offices, bed bugs are active at night at first but, since they typically cannot find hosts to feed upon, they may shift their activity to daylight hours.

workers bring the bed bugs to work from their infested home. Even if you successfully eradicate the bed bugs in the office, there is a high probability that the same individuals will bring them to the office again. So what can you do?

Sometimes it is obvious that a particular employee is bringing bed bugs to work from a badly infested home. Dealing with this is one of the biggest challenges associated with office bed bug problems. Diplomacy is essential. Often, it is best to convince office management to offer free (or subsidized) home bed bug inspection to all employees whose workspace has been positive for bed bugs. Avoid the “blame game.” The inspection (and possibly the treatment) is offered as a benefit to the employee. Never characterize a particular worker as either a victim or a cause of the infestation.

Office management should also consider making certain bed bug management tools available to employees. Such tools might include encasements, bed bug interception

devices, and portable heating units. These could be provided free or at a discounted rate to encourage staff members

Infestations in Workers’ Homes

An office bed bug infestation often begins when one or more

Random Blind Verification for Canine Detection

A random blind verification system employs at least two dog and handler teams working independently. Each dog and handler team provides a list of areas for the other team to inspect, but does not disclose whether any of the listed areas has bed bugs. Areas where a dog alerted will be inspected by the alternate dog and handler team, but since the second team has no idea if a particular site has bugs or not, the inspection serves as a “blind verification.” Areas where both dog and handler teams have alerted should be considered as “confirmed” areas of activity. Areas with a mixed alert (one positive alert, one no alert) should be considered “suspect” and can be handled accordingly (nonchemical only, ongoing monitoring, etc.). If more than two dog and handler teams are involved in the project, a third team can be used to confirm the mixed alert.

It may seem that using multiple dog/handler teams would be cost prohibitive, but in many cases the



Brody, a bed bug dog, inspects an office chair. (Photo: Bed Bug Central)

efficiencies that are gained can offset the cost of the additional teams, particularly for large projects. Two teams can complete an inspection in half the time with less fatigue on the dogs and the handlers.

Bed Bugs in Office Buildings



An adult bed bug, *Cimex lectularius*, ingesting a blood meal from a human host. (Photo: Piotr Naskrecki/CDC)

to take advantage of tools that can aid in early detection and eradication of bed bugs. Any measure that helps the employee at home will in turn help reduce the likelihood of reintroduction of bed bugs into the workplace.

Government offices are a special problem because of strict employee privacy rules and restrictions on the government paying for non-work related services for employees. It may prove impossible to have home inspections unless workers hire someone themselves to check their homes. In such situations, the work spaces of high-risk staff might require some sort of isolation and regular monitoring with detection devices or canine inspection.

How to Inspect for Bed Bugs

Inspection is critical in office infestations. Bed bugs can be located anywhere, so the critical first step in control is identifying as many infested areas as possible. At the present time there are no detection methods or devices that are completely reliable so it is best to employ a combination of inspection and monitoring methods to identify areas of activity.

1 Visual Inspection. It is possible to find some areas of bed bug activity through visual inspection, but you must be very thorough. Prime areas to check include desk chairs, upholstered chairs/couches, desks, wall dividers, behind cove moldings, any site where workers rest or leave their coats and other personal possessions. If raised floors are present, inspect the areas beneath the floor, particularly where utilities emerge. Raised floors with utility penetrations provide the perfect environment for bed bugs—these areas

are constantly dark, completely undisturbed and located just inches below the host. Be sure to check for bed bugs in the bundles of wires and utility conduits.

Also be sure to check places where workers congregate, such as lounges, meeting rooms, lunch areas, copy machines, water coolers, and similar sites. Restrooms are also critical inspection sites in office buildings because workers bring items from their work area and place them on shelves, on countertops, or on the floor in the stalls. Create a flow chart of staff activities and movement of files from infested areas to other locations within the building. Pest professionals are unlikely to find all bed bug sites during a visual inspection. They should be able, however, to identify focus areas that will require the most intensive actions, both in terms of service and in follow-up investigations.

2 Canine Scent Detection. Canine scent detection can be an effective, efficient and reliable method for inspecting a workplace. Use a highly-qualified dog and handler team experienced with bed bug work and follow procedures that insure the highest level of accuracy (see “Random Blind Verification for Canine Detection”). Firms that do not have their own dog and handler team can subcontract canine scent detection services. (But pest professionals should insist that subcontractors provide a non-compete agreement to prevent them from taking customers.)

Dogs are not 100% effective. But since the dog uses its nose rather than its eyes to find bed bugs, a well-trained dog is far more efficient at finding bed bugs than is a human inspector. Dogs commonly find bed bugs that a technician would miss. A good dog and handler team can usually detect a few or even a single bed bug or egg, and can inspect an office of a couple of thousand square feet in less than an hour. One strategy is to have a canine inspection with the handler marking infested sites with colored tape or other markings. Treatment can be scheduled in the days to follow.

It is important to use a team with a proven track record and one that uses dogs that can locate eggs as well as bugs. Some dogs can discriminate between live activity and old evidence (caste skins, carcasses, fecal spotting, etc.), and this can be an advantage. One limitation of canine scent detection is the sensitivity of a dog’s nose to insecticides. Most handlers will not let their dogs detect in an area that has been recently treated (within 2-4 weeks, depending on the handler) or where insecticide dust is visible. Sometimes, the dogs can skip the treated areas but check untreated areas.

A canine scent detection program that is not well run can create confusion, uncertainty, and lead to unnecessary expenses. False alerts (alerts indicating that bed bugs are present, when in fact they are not) are perhaps the

greatest concern. We suggest that you consider inspections with multiple dog handler teams using a random, blind verification system (see box on page 6). This procedure maximizes the quality and reliability of inspection results.

3 Sticky Traps. Insect sticky traps can be placed in areas of concern. They should be placed along edges along the base of cubicle dividers, in areas where personal belongings are stored, next to computers and other heat generating equipment, in areas where utilities emerge from raised floors as well as on desk tops. Keep in mind that sticky traps are not highly effective detection tools for bed bugs and should not be used alone. While a bed bug on a trap confirms that bed bugs are nearby, their absence on a sticky trap does not mean that the area is free of bed bugs.

4 Host Seeking Bed Bug Detection Devices. There are now detection devices that employ the use of host cues like CO₂, heat, and chemical attractants to trap bed bugs. Since these devices use relatively new technologies, we are uncertain of their effectiveness or sensitivity in office settings. The detection devices could be placed within work stations as well as the area beneath raised floors. We do not know at this time whether it is best to run these devices at night or during the day when used in an office setting. There are two problems: (1) limited scientific information regarding when bed bugs shift their activity cycles from night to day and (2) the potential for new introductions of bed bugs, which will be on a night activity cycle.

Bed Bug Control Tactics for Offices

As we have said repeatedly, the critical problem in offices is that bed bugs can be located anywhere. This means there are no “typical” treatment sites. Primary treatment sites are those infested locations identified by canine or visual inspections plus common travel routes and high-risk

Before treating a cubicle with steam, it is important to determine what utilities, cables and equipment are housed within the walls of the dividers to avoid damage. (Photos: Bed Bug Central)



locations. A successful treatment strategy in an infested office will almost always incorporate multiple control tools and tactics. Just spraying the carpet, baseboards, and furniture is not a reasonable solution. Other options include targeted vacuuming, steam treatment, insecticides, and compartment (chamber) fumigation or heat treatment.

There is no “one size fits all” bed bug program for offices. You will need to analyze each office infestation so that you can design a customized program with tools and tactics determined by the specific conditions at the site, including:

- Size and distribution of the bed bug problem.
- Furniture and structural conditions including the presence of raised floors, utility runs, carpets, cubicle dividers, etc.
- Workers’ issues, such as morale, antagonism with management or union, pesticide concerns and sensitivity, and anticipated worker cooperation.
- The willingness of management to do all that is necessary.

Insecticides. Anticipate challenges when using insecticides against office bed bug infestations, and take precautions to avoid trouble. Select materials that are low in toxicity, and consider formulations, methods of application, and application sites that minimize worker exposure. Target application of pesticides based upon the inspection findings and observed bed bug behavior. *The specific areas to be treated will vary greatly from one workplace to the next.*

A common mistake in office bed bug control is to depend on generalized treatments, often repeatedly, of entire floors. Not only are such treatments generally ineffective, but we believe that such widespread insecticide residue causes unnecessary exposure to office workers. Office infestations usually require many service visits. Repeated insecticide applications in an office setting can trigger problems with workers. Here are some suggestions to reduce potential challenges:

- Provide information on the types of treatments, hazards, and precautions (if any) office workers need to take. Address concerns. If you are not proactive with information, some people will assume the worst.
- Apply insecticides after working hours. Friday afternoons or weekends are preferable to obtain the longest aeration times, especially when using residuals and products containing pyrethrins and similar irritants.
- Avoid applying residuals to surfaces that workers will regularly contact, such as the top surface of desks, chairs, etc.
- Incorporate effective low hazard methods including “green” insecticide products, whenever possible.

Vacuuming. The best way to quickly eliminate pockets of accessible, clustering bed bugs is to vacuum them using a powerful vacuum equipped with a crevice tool. Clusters



Cubicle dividers that are rich with technology and office clutter can present significant obstacles to a successful bed bug treatment.



can sometimes be found under desks, on chairs, along cove moldings, along rug tack strips, in cracks and crevices, even on walls. Be realistic, however. You won't get them all, only the easy ones. Bed bugs are difficult to dislodge when located deep in cracks and seams or on rough surfaces. Eggs are glued to the surface and are especially difficult to dislodge. Vacuuming is more effective if you "scrape" the crevice tool along the surface to help dislodge or crush the bed bugs and eggs.

Steam or Spot Cold Treatment. Regular use of steam or spot cold treatment (using pressurized CO₂ to freeze bed bugs) can help overcome the limitations of vacuuming by destroying bugs and especially eggs that may not have been dislodged during vacuuming. The undersides of desks, baseboards and many other areas can be treated with these methods. Additionally, both methods can be used to treat upholstered chairs and cubicle dividers. It is important to first determine what types of utilities, cables and equipment are housed within the walls of the dividers to avoid damage. Prior to using steam on cubicle dividers, you should consider having your client sign off on a "hold harmless" statement.

Alternative Strategies. Consider alternative strategies such as fumigation with sulfuryl fluoride, heat treatment, or the use of DDVP strips for items difficult to disinfect with traditional treatments. Examples include computers, office equipment, files, and personal items. Advise management to be careful about moving files, computers, and furniture from infested areas to other areas in the building.

Paper files in filing cabinets, equipment such as computers and phones, personal items, and the like are sometimes best dealt with offsite. These items should be wrapped in plastic

sheeting and taped securely to avoid spreading the bed bugs, taken off-site, and either fumigated with sulfuryl fluoride or heat-treated as appropriate in a chamber or container. The disinfested items should not be returned until the bed bugs in the office have been controlled.

Small quantities of these items can be heat treated on site using small heat chambers, or they can be stored and treated in special staging areas or a room within the building. For electronics and other equipment, be sure to check heat tolerance with the manufacturer or other information source before heat treatment. Another option for certain infested items, particularly electronics, is to store them along with DDVP strips for a period of days inside plastic bags or inside another type of enclosure. Such treatment *cannot* be done in occupied areas and there are other restrictions and precautions that need to be taken. Check the label.

Even entire work stations may be best dealt with by disassembling them and heat-treating or fumigating the component parts (wall panel dividers, desks, chairs, etc.) off site. It may prove cheaper in the long run.

Be Sure to Reinspect and Follow-up All Actions. Office infestations tend to be difficult to eradicate. Expect to repeat a cycle of service and inspection for months until there is no further sign of infestation (as determined by visual sighting, bites, canine inspection, or other monitoring methods), and then establish an ongoing inspection and monitoring program to identify new introductions. And rest assured there will be reinfestation. Bed bugs in the workplace is a growing trend. Problems will get much worse before they get better. ■



What About a Single Bed Bug?

It is fairly common in an office to find only a single bed bug on initial inspection or during ongoing monitoring. How extensive should service be? We suggest the following:

- Service the entire area within a minimum of 20 feet of the location where the bed bug was found.
- The service should be done as soon as possible after the positive finding.
- Service should include multiple tools and tactics.
- Continue a monitoring program throughout the entire office for at least two months.

Complete Bed Bug Control

MGK Offers a Comprehensive Bed Bug Product Portfolio for the Pest Management Industry



MGK has a long history of developing quality products for the pest management industry. Since opening its doors in 1902, this family-owned business has achieved more than 100 years of continuous growth by being true to its mission of developing high-quality products that address specific market needs.

In recent years, the company has invested millions of dollars in the pest management industry, expanding its product offerings to include a range of insecticides developed specifically for PMPs, including those involved in the rapidly expanding bed bug market. "Our goal is to continue to grow our branded products business and we see a significant

part of that growth coming from the structural pest control industry," said Ian Thorburn, Market Manager, Branded Products. "We anticipate driving growth by continuing to make significant investments in both sales and R&D, which will result in the introduction of a number of new products... and the ongoing enhancement of existing products. We're committed to this market."

Nowhere is that commitment more apparent than in the company's ever-expanding bed bug product portfolio. "We're pleased to offer a fully integrated portfolio of pest management products for the bed bug market," Thorburn said. The line includes:



Bedlam® Insecticide

This market leading aerosol formulation is specially designed to control bed bugs and their eggs. As a water-based product, it will not stain water-safe fabrics or surfaces and is labeled for areas such as mattresses, headboards, carpeting, flooring, drapes, even luggage. Bedlam provides up to two weeks of residual control on wood, ceramic surfaces and carpet. In addition, Bedlam reduces bed bug egg hatch in both susceptible and some resistant strains of bed bugs.

Exponent® Insecticide Synergist Increases the speed of kill and enhances the effectiveness of pyrethroid insecticides by helping inhibit MFO resistance. While Exponent has no insecticidal properties of its own, adding it to products like Suspend® or Onslaught® has proven to increase efficacy on some resistant strains of bed bugs.



Onslaught® Microencapsulated Insecticide

A controlled release product that provides tough control of tough insects, including bed bugs. Onslaught is a low-odor product in an easy-to-use formulation that is labeled for use as an indoor broadcast surface spray, including for carpet. Featuring a flexible label, it can be used indoors and outdoors, as well as in food and non-food areas of commercial structures.

PyGanic® Dust

This recently introduced dust is designed to provide quick insect kill combined with the appeal of a botanical product for sensitive accounts like office buildings. This 1 percent pyrethrin product delivers fast kill as a spot or crack and crevice treatment in food and non-food areas of structures. It has even been proven to kill a strain of resistant bed bugs in only 60 minutes.



altoCIRRUS™ Fogging Concentrate

The newest product in the company's portfolio, this synergized concentrate is effective for crack and crevice flushing of bed bugs, as well as fast kill. And depending on the situation, altoCIRRUS also can be fogged as a space spray application.

Pest management professionals interested in learning more about MGK's bed bug product line – offering integrative solutions and superior results – can visit www.mgkpro.com.

Bedlam®, Exponent®, Onslaught®, PyGanic®, and altoCIRRUS™ are registered trademarks of MGK. Suspend® is a registered trademark of Bayer.



*MGK® Presents The First Fully Integrated
Portfolio Of Pest Management Products
Specially Designed To Provide*

COMPLETE BED BUG CONTROL



Aerosol
*Kills bed bugs
and their eggs.*



Microcap
*Tough control
for tough pests.*



Dust
*Pure botanical
with fast kill.*



Synergist
*Enhances efficacy;
combats IAPD resistance.*

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