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Copesan is an alliance of regional pest management companies that are united as a single entity for the sole purpose of providing quality pest solutions to businesses with locations throughout North America.

Bed Bugs—A Rising Menace?

Bed bugs are back and are becoming a serious concern. Back in the 1940s, they were considered one of the biggest pest problems in the country. Then came the 1950s and the required fumigation of used mattresses and used furniture prior to resale. The fumigations, coupled with the widespread use of DDT, pretty much nailed the coffin shut on them. They were hardly ever seen except occasionally in substandard housing or flophouses.

“But since the mid- and late-1990s, they’ve been reappearing in greater numbers, largely because increased air travel to the USA from countries where bed bugs were not eradicated has supplied them with numerous hitchhiking opportunities,” says Jay Bruesch, Technical Director, Plunkett’s Pest Control, a Copesan Pest Solutions Partner in Minneapolis, Minnesota. “Their resurgence may also have something to do with the decreased amount of chemicals used by our industry. We no longer spray baseboards in commercial accounts as a matter of routine. And DDT is gone.”

Bruesch says although there is a growing bed bug problem, “they’re not a national or even a local scourge. There’s no reason to panic. They aren’t really an important disease agent. Theoretically they are carriers of illnesses, but haven’t been implicated in the spread of disease. Some people are worried about getting hepatitis or AIDS, but that doesn’t happen. But they are filthy pests that suck blood, which is distressing to many people. And their bite can cause serious allergic reactions in some



people. A bite will almost always cause some kind of skin reaction.”

Bruesch says bed bugs are about a fifth of an inch long, oval and flat in shape, and are reddish brown in color. They feed only on mammal blood.

“They can be successfully controlled,” he says, “if you realize that you’ve got some hard work to do. Make sure you correctly identify them, carefully plan, carefully treat and carefully follow up.

“Investigate thoroughly, including the surrounding areas. Bed bugs don’t stop at ceilings or walls. They move up pipes, across electric wires. They’re so flat in shape that they can squeeze into tiny cracks. You’ll find them in furniture, headboards, box springs or cracks inside nightstands and drawers. Or behind pictures on walls or between carpet tacks underneath carpets.”

According to Bruesch, liquid residual sprays are typically used to treat structural elements for them as well as insecticide dusts. “But treat mattresses differently than the rest of the structure—treat them only with non-residual insecticide, or bring them to a secure site and have them fumigated. Or just discard and replace them.”



ProFume Tests Conducted by McCloud

It's common knowledge that stored product pest infestations can be a serious problem for any mill, commodity storage or processing structure, or food-handling establishment. Fumigation is the preferred method of pest management in those locations because the gas, obviously, can get at the pests, wherever they are hiding.

But changes in the fumigation industry are now occurring. Methyl bromide (MB), the fumigant of choice for many years, is being phased out because of concerns about stratospheric ozone layer depletion, and ProFume, a sulfuryl fluoride (SF) fumigant made by Dow AgroSciences, is being introduced to the industry as a possible replacement. Dow manufactures Vikane, a different formulation of SF, as a fumigant for termite infestations.

According to Pat Hottel, Technical Director for McCloud Services, a Copesan Pest Solutions Partner in Hoffman Estates, Illinois, her company fumigated a corn mill last May in Indiana. They used that project both as a ProFume training exercise with Dow representatives and Jim Sargent of Copesan looking on, and

“We put red flour beetle eggs in several cylinders of corn meal in each of the two buildings.”

an opportunity to compare the effectiveness of MB on flour beetle eggs in cornmeal vs. the effects of SF on those eggs.

“We performed an MB fumigation in one building and tested ProFume in the other,” she said. “We put red flour beetle eggs in several cylinders of corn meal in each of the two buildings. Ten eggs were placed one foot deep, two feet deep, and three feet deep in each test cylinder. After the fumigation we sent the samples to Purdue University where they were incubated and tested for survival.”

Hottel cautions that the test was a limited study. “We didn't have enough replicates for it to be considered a completely scientific study, but it did give us some useful information.”

According to her, the fumigation with MB produced a 100 percent kill of the eggs. “With ProFume, however, there were

survivors at every depth. There were also survivors in the control cylinder that was not fumigated. Clearly we didn't get as good a kill of the eggs with ProFume as we did with MB.

“Armed with this information, we concluded that we need to do a better job of sealing a building in a ProFume fumigation in order to get the needed concentrations for the kill we want to get.

“We also knew that ProFume has a much higher dosage rate to kill insect eggs.

“Those are the things we'll have to work on to get the desired control.”



The Importance of Good Drainage

“With all the rain that many areas of the country have been experiencing, it’s important to have good drainage to help prevent springtails, psocids and other pests from invading industrial, commercial and residential structures.” So says Chris Arne, Technical Trainer and Entomologist for J.C. Ehrlich Co., a Copesan Pest Solutions Partner

are harmless to plants. A particular species of wingless psocids may be seen commonly in buildings. They’re called book lice because they feed on glue from book bindings, as well as grains, fungi, molds, and insect fragments.

“Both insects are typically found in moist environments,” explained Arne.

“There have been situations

in question. Is it sloping away or toward the structure? Do downspouts extend away? The further away the better.

“Pay attention to drainage. Go out after a rainfall and see where water is puddling up or look for moss, or areas near buildings where plants are particularly lush.

“Proper drainage keeps the soil around a building dry, making it less attractive to those types of insects. Try to keep vegetation away from the building. You want to make that environment next to a building as close to a desert as possible. That will help to reduce a building’s attractiveness to psocids and springtails.

“In warehouses, the metal sheathing for the walls extends to the soil line at grade. If walls are insulated, they can wick moisture up into the walls creating a difficult to access harborage site for psocids and springtails. If this situation exists, it needs to be remedied,” he said. “Exterior walls should have three or four courses of concrete block before the metal sheathing is attached. This allows for easier inspection and prevents wall insulation from collecting moisture.”



in Reading, Pennsylvania.

Psocids are soft-bodied insects less than 3/16 of an inch long. Springtails are tiny wingless insects named for the forked structure attached to the underside of their abdomen, which acts like a spring to flip them into the air.

Psocids, otherwise known as bark lice, can be found on tree bark, foliage or under stones but

where psocids have invaded buildings and infested products, particularly in boxes stored near exterior walls. Moisture in the walls will attract psocids and springtails; once there they can make an easy transition into a warehouse area, for example.”

Arne had some recommendations to help alleviate a wet environment.

“Look at the grade of the land surrounding the building

Cicadas—The 17 Year Phenomenon

“Much ado about almost nothing” pretty much describes the well-publicized appearance of periodical cicadas that have invaded certain parts of the USA, according to Mark “Shep” Sheperdigian, Vice President of Technical Services, Rose Exterminator, a Copesan Pest Solutions Partner in Troy, Michigan. “Unlike swarms of locusts that can go across the country side denuding crop land and forests, cicadas aren’t very

harmful,” he says.

Although these loud chirping, large black, bullet-shaped insects have been covering trees, buildings, poles and just about anything else vertical in selected areas from the Washington, D.C. area, west into Indiana, natural predators such as the cicada killer wasp hunt them down and they’ll be gone soon, he says. “We won’t hear from them again for another 17 years.”

The biggest impact they can

have is psychological—for people who have an irrational fear of insects. But cicadas don’t bite, don’t sting and don’t do much damage to trees.

“You can put fine mesh netting over small trees and shrubs to keep them off, but there aren’t any treatments that will repel them. So the thing to do is to dispel the fears and enjoy them for the phenomenon that they are.”



National Conference on Urban Entomology

Every two years at the National Conference on Urban Entomology, results of important research projects conducted by various universities and industry groups are reported. The conference, held last May in Phoenix, was no exception, according to Jim Sargent, Copesan’s Director of Technical Support and Regulatory Compliance.

“More than 70 interesting research papers were presented,” he said, “and they covered termites, cockroaches, ants, wasps, bed bugs and other pests.

“Some of the research presentations explored the

increasing number of German cockroaches that are avoiding gel baits. Research indicates that a new product, Maxforce Select, might do well in addressing the problem. Currently, about five to 10 percent of accounts are experiencing bait aversion. However, it’ll probably be just a matter of time until cockroaches several generations later will again show some signs of resistance.”

Sargent said there was discussion of resistance management. Researchers advocated rotating several different insecticide classes rather than just relying on baits, he reported.

“There were also several papers about American cockroaches,” he said.

“One found that Salmonella bacteria were embedded in the waxy exoskeletons of the roaches. Another explored how this species moves from sewers into hospitals and food plants, especially in older parts of a city. An incredible number of these cockroaches are found in American sewers,” he said. “And another paper reported on a ‘supercolony’ of American cockroaches that was nesting underground in construction debris—something that I had

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never heard of.”

Several papers also delved into the current bed bug problem that’s being experienced all over the world. “The spread has been quite rapid, and according to research reports there really aren’t any outstanding treatments except fumigation, which can be employed without too much difficulty but at some expense.”

Some conference papers reported good results in treating ants with Termidor, which was originally a termiticide. “There

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is more data showing up all the time that it’s also an outstanding ant management material.

Termidor added ants to its label last year,” he said.

Sargent reported that employ-

ees of Copesan and Copesan partner companies were well represented at the conference.



Information in this publication was researched and prepared by highly regarded experts within the pest management industry that are part of the Copesan Partnership. Copesan has more technical expertise located throughout North America than any other pest management firm. The IPM Update is a small sampling of that knowledge and expertise we provide to our clients.

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