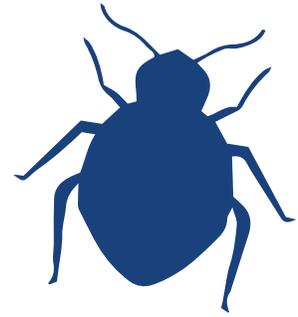


CASE STUDY REPORT

BED BUGS IN AN OFFICE BUILDING



Introduction

In the last decade, bed bug infestations have grown and become one of the most difficult pests to control. Pest management professionals consistently rank bed bugs as the most challenging pests they encounter in industry surveys. Bed bugs are most problematic in structures where they can feed undisturbed for five or minutes. For this reason, bed bugs rarely become well established in offices. They are introduced by employees and there can be multiple introductions but they rarely build widespread large populations. Despite the hostile environment that an office building presents, bed bug introductions can alarm office workers resulting in job dissatisfaction and in some cases, result in reports to regulatory agencies or union officials.

Challenge

The common bed bug is an ectoparasite and humans are the preferred host. They don't live on the host and prefer to feed and then retreat to a harborage after feeding. This harborage may include the cracks and crevices located underneath the seat of an office chair, the folds in the collar of a winter coat or the straps of a back pack. They are excellent hitch-hikers and will move from place to place on infested items. Their hitch-hiking habit results in the movement of the pest from worker homes to the workplace.

Bed bugs can be identified by their reddish brown color and apple seed oval shaped bodies. They are relatively small in size, measuring 3/16" as adults. They have no wings but can move fairly quickly by crawling. They

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are extremely flat and can fit into the narrowest of cracks for harborage. They will leave small dark fecal spots in areas where they are harboring which can also be useful in the identification of infested areas.

Behaviorally, bed bugs are more active at night. They can also go long periods of time without a meal. The length of time can vary considerably but temperature is a major factor. At lower temperatures, bed bugs are able to survive longer without food. Depending on the research consulted, the length of time can vary from several months to over a year.

Not everyone reacts to the bites of bed bugs and this can also complicate the recognition and identification of an infestation. Thirty percent or more of the population do not react to bed bugs and this number is even higher in the elderly. Reactions when they do occur can be delayed. Sometimes the reaction can appear a day or so after the bite but sometimes the reaction may take days or weeks. A worker being bit at a hotel during a vacation, may not develop a reaction until they return to work and then assume they were bitten at work.

Investigation

A large office complex had complaints involving bed bugs in several office cubicles within one floor. One bed bug was found in the desk area of one employee through visual inspections and one on another employee's back pack at a neighboring cubicle. The property manager of the building decided to bring in a team of bed bug detecting canines to help confirm the visual inspection findings. The dogs alerted to bed bugs in several areas beyond the visual findings. Visual con-

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firmations by a pest management inspector could not substantiate the dog reports. Employees were concerned about the situation and the threat of transporting bed bugs to their homes. An employee contacted OSHA because they felt their employer was not taking sufficient reactive steps.

Solution

A staff education program was conducted to inform employees about bed bug identification, biology, behavior and the risks in an office environment. This education component was considered an integral part of the program. Fact sheets were also provided to staff since there were multiple shifts of workers involved and it was difficult to schedule sessions for all workers. The fact sheet also served as a reference for those who did attend the session.

Since human inspectors and canines both have their limitations in finding bed bugs, it was recommended that a monitoring program using lures be established. Canines are considered more effective than humans in locating bed bug infestations but there is a threat of false alerts. If a live bed bug cannot be found after the dog alerts, it is considered suspect. A bed bug monitoring program of the entire affected floor was established post training. Traps containing a lure attractive to bed bugs was used and placed in the intersections where four cubicles met. The traps were inspected over a three month period and then removed. No bed bugs were found during the monitoring program and no employee complaints or sightings were recorded. Stored product pest beetles were found in one trap which re-

sulted in locating an infestation of beetles in a worker's desk drawer. The candy responsible for the infestation was removed. This problem was unrelated to the bed bugs but provided a side benefit.

In addition, chemical treatments were performed in the area of the original complaint. This treatment had been performed immediately after the original sighting and inspection. Follow up visual inspections of the area were made to confirm that the chemical control was effective and that no additional bed bugs were found. This area also was part of the three month monitoring program.

Summary

Bed bug infestations in the work environment can be challenging. It requires finding the source of the introductions, working with the employee who has introduced the bed bugs into the workplace and then protecting the building and coworkers from the potential spread. Risks are minimal but must still be addressed. As mentioned earlier, education is a critical component of the program since many people are unfamiliar with bed bugs and media hype can increase concern on the part of affected workers.

Through pin pointed chemical applications and extensive monitoring of the work space, the limited introduction was controlled and worker concerns were resolved. There were no regulatory actions taken on the part of OSHA and the client was further equipped and educated to deal with any future issues with bed bugs that might occur.