

Meeting – and **DEFEATING** – the Challenges of Bed Bug Control

Dichlorvos Vapor Proven Effective
Against Even Resistant Bed Bugs



Bed bugs are notoriously tough to control. Not only do PMPs face challenges presented by the bed bug behavior and life cycle, it can be difficult for even the most experienced PMP to ensure targeted application to all potential hidden harborages. And, perhaps the greatest challenge is pesticide resistance which is making control efforts increasingly difficult.

THE CHALLENGES

Targeted application. Pesticides that effectively control or eliminate other insects often do not work on bed bugs because of their unique behavior. Bed bugs feed only on blood, and can survive for more than a year without a bloodmeal, thus food attractants are of no use. They also have no grooming behavior, so pesticides meant to be ingested during grooming are ineffective. Bed bugs seek harborage in dark, hidden areas, exacerbated by dirt and clutter; but they also are found in the most sanitary of places. Although they often shelter in groups, they are just as likely to venture off alone to spread from place to place. With all this, it can be very challenging for the PMP not only to detect all the bed bugs at a site, but also to target applications so as to effectively eliminate them all.

“Their nature of avoiding light, their size, and the fact that they love cloth and wood make it easy for consumers to spread bed bugs,” said Clark Pest Remedy Owner and President Garey Clark. And it can be very tough to reach all the bed bugs in heavily infested items and furnishings such as plush or deep couches. “There’s a million places for them to hide,” he said.

Bed bug life cycle. As if the bed bugs’ behaviors were not challenging enough, control is made more difficult by the bed bug life cycle. It is a well-known fact that bed bugs

in the egg stage are difficult to control. Many liquid insecticides do not cause egg mortality because, it has been theorized, they cannot penetrate the eggshell layers. However, products that are aerosolized or move easily through air have been proven able to move through the eggshell to exterminate the embryo.

Resistance. There have been many hypotheses as to why bed bugs have resurged in recent years, but according to research from Virginia Tech (<https://bit.ly/2KoP6QN>), the cause is at least partially explained by bed bug resistance to insecticides, particularly pyrethroids. University of Kentucky research (<https://go.nature.com/2JHuqJl>) also identified 14 molecular markers in bed bugs associated with pyrethroid resistance. Bed bug evolution has enabled them to develop resistance-associated genes by which pyrethroid penetration through the epidermal layer is reduced or completely blocked. Of further importance is other University of Kentucky research (<https://bit.ly/2r8yKDU>) stating that failure of pyrethroids to quickly control infestations of resistant populations increases the opportunity for their spread.

This bed bug pesticide resistance is being seen by pest management professionals: “Absolutely!” Clark said. “It’s mostly in the pyrethroids; I’ve seen that out in the field in certain cases.”

THE SILVER BULLETS

Defined as products with no known resistance, efficacy at every life stage, and targeted deliverability, “silver bullets” for bed bug control are not a common find. But they do exist. The active ingredient (AI) dichlorvos (DDVP) has been shown to be effective across the bed bug lifecycle — kill-

ing 100% of the bed bug eggs, nymphs and adults. Additionally, it works both on contact and as a vapor, with the vapor being very effective on eggs as well as reaching insects hidden deep within harborage.

Clark uses NUVAN ProStrips from AMVAC, which have the dichlorvos AI, primarily to supplement heat treatments. “We have a lot of customers with a lot of personal items that we don’t want them to take out of the home in case they’re infested,” Clark said. So, they put the clothing and personal items in bins or bags with the NUVAN ProStrips.

Why does the company use NUVAN ProStrips? “Purely for effectiveness; they are perfect for containers, clothes, and small areas,” he said. “I have to have something that works. My customers don’t want me to come back — and I don’t either.”

Although it is critical to ensure the NUVAN ProStrips remain in the containers for at least 48 to 72 hours, Clark said his company uses the strips quite often. “We love the strips; they work. If they didn’t, we wouldn’t use them.”

Vapor Action

AMVAC’s NUVAN products are organophosphates with the AI dichlorvos that inhibits the insects’ nervous system.

- **NUVAN Directed Spray.** Applied in hidden harborage areas, it kills bed bugs on contact, with additional vapor action causing 100% kill within 20 minutes.
- **NUVAN ProStrips and ProStrips+.** When placed in a confined space, such as an airtight container, its vapors can kill nymphs and adults within 48 to 72 hours and eggs within a week, and provide control for up to four months.

For more information, call 888-462-6822 or visit www.amvac-chemical.com.

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For reliable bed bug control, the NUVAN family is the answer. From NUVAN ProStrips delivering vapor action to the hardest-to-reach enclosed areas, to NUVAN Directed Spray Aerosol offering localized control. It's the proven chemistry of Dichlorvos (DDVP), available in multiple delivery modes and effective against all stages of the bed bug lifecycle — including adults, nymphs and eggs. No ifs, ands, or bugs.


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DIRECTED SPRAY AEROSOL


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