

Need to Know

- Straight talk for professionals about pests and pest control products

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Bed Bugs Not Repelled by Deltamethrin and Beta-Cyfluthrin

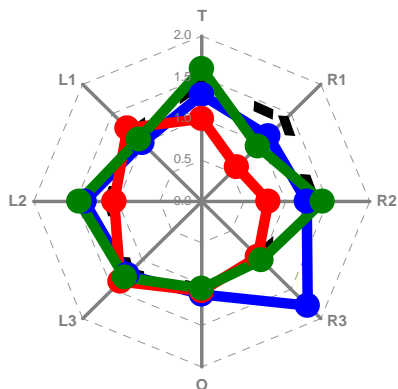
There is a perception in the industry that pyrethroid insecticides like deltamethrin or beta-cyfluthrin are repellent to bed bugs. Bayer ES sponsored two studies to investigate the possible repellent effects of pyrethroids to bed bugs. These studies demonstrated that there was no repellency to Suspend SC (deltamethrin), DeltaDust (deltamethrin) and Tempo SC Ultra (beta-cyfluthrin).

Snell Scientific (Eric Snell): A total of 10 bed bugs were introduced into a test arena (Fig. 1). One piece of filter paper was treated and identified with the letter T. Treatments included the labeled rates of Suspend SC, DeltaDust, Phantom (chlorfenapyr), and an untreated control. Bed bugs were allowed to roam freely in the arena and their location was recorded at 0.25, 0.5, 1, 2, 4 and 24 hrs.



Fig.1. Test arena with bed bugs.

There was no repellency to the treatments compared to the control (t-test, $p < 0.05$). A mean of 1.25 bed bugs were observed per filter paper at 24 hrs (Fig. 2).



Control Suspend DeltaDust Phantom

Fig.2. Distribution of bed bugs at 24 hrs. The treated filter paper is at the top.

Virginia Tech University (Dr. Dini Miller): A test arena was equipped with one insecticide treated and one untreated Masonite® panel. All surfaces of the panels were treated with either Suspend SC, Tempo SC Ultra, or water (untreated control). Treated panels were allowed to dry before susceptible or resistant strains of bed bugs were placed in the arena. Bed bugs were allowed to move freely in the test arena between treated and untreated panels. Movement of bed bugs was observed at 10 min intervals for 2 hrs.

There was nearly an equal distribution of susceptible bed bugs on the treated and untreated panels (Fig. 3A). For the resistant strain of bed bugs, there were slightly more bugs on the treated panels than on untreated panels (Fig. 3B).

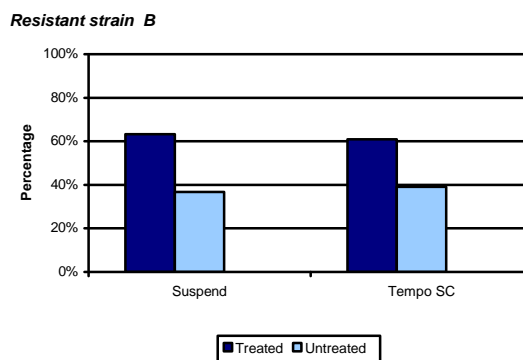
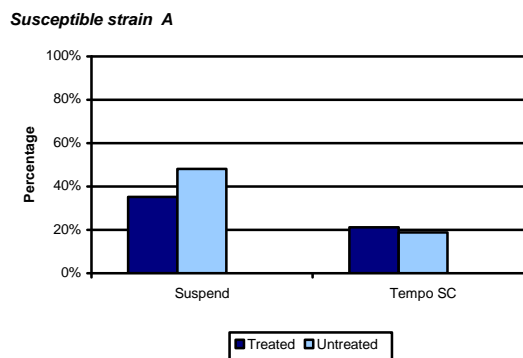


Fig. 3A & 3B. Percentage of bed bugs on treated and untreated panels, mean of 2 hrs.

Contributed by Dr. Gary Branses