

Study 72b

Laboratory Summary

One strain of field collected bed bugs was collected (from 2 hotels) and reared in the laboratory. The bed bugs were fed human blood through a membrane but the resistance level was not determined. Mixed populations of adult bugs were used for testing. Aprehend[®] Ready to use was used to treat fabric at a rate of 5.3×10^7 conidia per cm^{-2} for the exposure of bed bugs to the product.

Test 1 Direct Infection: Populations of 6 adult bed bugs were confined in arenas each of which contained a piece of treated fabric. Mortality began at approximately day 3 and reached 100% by day 10.

Test 2 Horizontal Infection: Arenas contained 2 harborages located diagonally from each other. Test populations consisted of 12 adults and 8, 5th instar nymphs per arena. 36 arenas were divided into 3 groups where one group received 33% infected adults, 67% infected adults or 100% infected adults. Another 36 arenas were set up the same except for the addition of CO_2 to induce questing.

Test 2 Results: Adults, high proportional mortality growing to more than 90% indicating good transfer of conidia among bed bugs.

Nymphs, only about 10% mortality by day 24, low transfer.

CO_2 had little effect on the experiment.