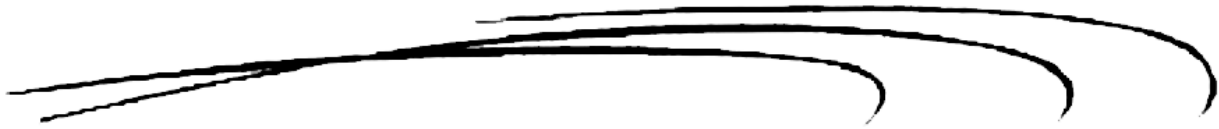


American Academy of Entomological Sciences



Knowledge ● Experience ● Commitment

FIELD EVALUATION OF PROPRIETARY FORMULA AS A DIRECT SPRAY WITH RESIDUAL AGAINST CURRENT BED BUG AND CARPET BEETLE INFESTATIONS

Project Number: APS-110911-1032

Performed For: Applied Science Labs, Inc. P. O. Box 835 Carmichael, CA. 95609 0835

Distributed By: Contamination Prevention Technologies (CPT)

Study Coordinator: Dr. Jeffrey K. Brown, Ph.D., R.P.E., B.C.E.

Report Date: November 10, 2011

Test Sites:

- (1) State Historical Museum – Maintained by state government agency (Facility “A”)
- (2) Hotel/Motel – private commercially operated hospitality facility – Managed by Regional Hospitality Management Company (Facility “B”)

SUMMARY

The study consisted of a single treatment each at two (2) public facilities where Applied Science Labs’ products CPT’s product and CPT’s product were applied according to label directions. Prior to application both facilities were carefully examined and CO2 ramp pit fall traps for bed bugs and pheromone adhesive traps for carpet beetles were set. Monitoring and examination of traps confirmed a moderate to significant infestation as reported by the respective facility managers of “Carpet Beetles,” Dermestidae Anthrenus spp., in field Facility “A” and “Bed Bugs,” Cimex lectuarius, in field Facility “B”. These insects are morphologically similar and share common cuticle structure and bond chemistry.

Immediately following application at field Facility “A” the carpet beetles were observed for knockdown. Follow up observations and collections were completed at intervals of 0.5 hours, 1.0 hours, 24 hours, 48 hours, one month and every subsequent month for the next twelve (12) months.

Immediately following application at field Facility “B” the bed bugs were observed for knockdown. Follow up observations and collections were completed in 0.5 hours, 1.0 hours and in periodic intervals of 24 hours during each subsequent month for the next twelve (12) months.

Physical inspection of Facility “A” after 0.5 hours after application revealed the elimination of all visible signs of adult infestation. After 1.0 hours UV marker was observed with 350 nm ultra violet black light (UV). The noted periodic inspections of the facility and insect traps revealed that some adults continued to “invade” the facility as it was not sealed to the outside. Carcasses gave evidence of residual kill at each subsequent periodic inspection. No material re-infestation has been revealed in any subsequent periodic monthly inspection. UV marker continued to be observed with 350 nm ultra violet black light. The failure to adequately seal Facility “A” permits ingress of carpet beetles where the residual agent of CPT’s product as seen under black light has continued to provide evidence of its lethality as carcasses are observed and most heavily concentrated in areas closest to poorly sealed or unsealed thresholds and around door casings.

Physical inspection of Facility "B" after 0.5 hours of application revealed elimination of visible signs of adult infestation. After 1.0 hours of application UV marker was observed with 350 nm ultra violet black light. ***The periodic inspections at 24 hour intervals during subsequent months for the next twelve (12) months presented no evidence of material infestation.***

There were no reports by guests at field Facility "B" of any evidence of infestation in the periods between the 24 hour intervals of periodic inspection in treated areas for twelve (12) months.

As to Facility "A", CPT's product was immediately effective against carpet beetles, Anthrenus spp., and ***remained effective over the next twelve (12) months*** to the extent that no further material infestation was present.

As to Facility "B", CPT's product was immediately effective against bed bugs, Cimex lectularius, and ***remained effective over the next twelve (12) months*** to the extent that no further material infestation was present as reported by management and staff.

As to Facility "B", CPT's product was effective against bed bugs, Cimex lectularius, and ***remained effective over the next twelve (12) months*** to the extent that areas treated per label directions did not become materially infected as reported by management and staff.

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