

International Committee on Military Medicine 2022

Oral Presentation Abstract Submission Entries (25min & 5 min Q&A):

Title: Evaluation of Lab-in-a-Bag Insecticide Susceptibility Kit for Military Use

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Summary: Bed bugs are prevalent and cumbersome to treat among military installations and on board ships. Bed bug infestations are increasingly becoming pesticide-resistant and efficacy of pesticide applications has been shown to vary on different surfaces. Knowledge of pesticide efficacy on specified surfaces and prevalence of bed bug resistance will enable Preventive Medicine Technicians (PMTs) treatment of infestations in a timely manner and with higher efficiency. To fill this US Navy capability gap, NECE tested the "Lab-In-A-Bag" kit marketed at assisting in rapid identification of effective pesticides, especially in deployed regions, to aid pest management efforts to eliminate infestations and minimize treatment resistance. Lab-In-A-Bag kits yield results within a few minutes upon treatment of different substrate surfaces with pesticides. The kit will be evaluated for effectiveness and military operational durability to determine if it can be recommended for use in DoD pest management programs.

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Methods: Kit protocol and accuracy were tested with included components. Kit durability was tested to determine if it would survive field utility.

Conclusions: Insecticide resistance is a concern for all military and civilian pest management programs and requires monitoring for successful control. NECE evaluated a field-deployable product designed to assess bed bug pesticide resistance and ensure program planning is effective at controlling bed bug populations.