AEDES ALBOPICTUS CONTROL WITH SPRAY APPLICATION OF *BACILLUS THURINGIENSIS ISRAELENSIS*, STRAIN AM 65-52

Patrick HY Lam[1], Chia S Boon[1], Ng Y Yng[1] and Seleena Benjamin[2]

[1]Biodefence Centre, Force Medical Protection Command, Headquarters Medical Corps, Singapore Armed Forces, Singapore; [2]Valent BioSciences Corporation, IL, USA

Abstract. A *Bacillus thuringiensis israelensis* (Bti) formulation, VectoBac®WG (strain AM 65-52), was evaluated for mosquito control in a training area with dense vegetation. Bti was spray applied to target *Aedes albopictus* larval habitats of 130 ha once every 2 weeks using a motorized back pack mist blower, Stihl ® SR420, and a vehicle mounted ultra low volume generator (ULV), IGEBA® U40. Ovitrap index (OI) and larval density (LD) were used to measure the efficacy of larviciding. In the Bti treated area the OI and LD significantly decreased with time ($p < 0.05$); OI decreased from 84.3 ± 1.7 to 27.5 ± 2.5 (%) and LD decreased from 27.9 ± 1.5 to 3.2 ± 1.8 larvae per ovitrap by 3 months from the start of treatment. During the same period of time there was no significant reduction in OI and LD at the untreated site which was under a conventional mosquito control program. This large scale study indicates larvicidal spraying with Bti of natural breeding sites, was able to reduce *Ae. albopictus* adult density. This significant reduction was not achieved with conventional manual application methods.

Key words: *Aedes albopictus* control, vegetation, larviciding, spray application of Bti

Correspondence: Mr Patrick Lam Hong Yeong,
Singapore Armed Forces, HQ Medical Corps,
701 Transit Road, # 04 – 01, Singapore 778910.
DID: +6582828808; Fax: +6564531015
E-mail: hylam@starnet.gov.sg