

IMPACT OF LARVICIDING WITH A *BACILLUS THURINGIENSIS ISRAELENSIS* FORMULATION, VECTOBAC WG®, ON DENGUE MOSQUITO VECTORS IN A DENGUE ENDEMIC SITE IN SELANGOR STATE, MALAYSIA

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Abstract. The field bioefficacy of a wettable granule (WG) formulation of *Bacillus thuringiensis israelensis* (Bti), VectoBac WG (Bti strain AM65-52) against dengue vectors, *Aedes aegypti* and *Ae albopictus*; was evaluated in a suburban residential area (TST) and in a temporary settlement site (KB) in the state of Selangor, Malaysia. Pre-control ovitrap surveillance of the trial sites indicated a high population of both types of *Aedes* mosquitoes. The populations were monitored continuously by weekly ovitrapping. Bti was sprayed biweekly at a dosage of 500 g/ha by using a mist-blower. The spray application was targeted into outdoor larval habitats. If required, Bti formulation was also applied directly into indoor water-holding containers at 8 g/1,000 l. Based on ovitrap surveillance, a significant reduction in *Aedes* populations was evident 4 weeks after initiating the first Bti treatment. The ovitrap index (OI) and the larvae density decreased drastically in both trial sites. In TST, the indoor OI was significantly reduced from 57.50±7.50% to 19.13±5.49% ($p < 0.05$), while the outdoor OI decreased from 38.89±11.11% to 15.36±5.93%. In KB, similarly, the OI was significantly reduced by more than half, from 66.66±6.67% to 30.26±2.99% ($p < 0.05$). In all cases, the reduction in OI was paralleled by reduction in larval density.

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