The effectiveness and residual effect of Bacillus thuringiensis israelensis H14 new formulation (tablet) for controlling Aedes aegypti larvae in the earthen water jars

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ABSTRACT  A study to evaluate the effectiveness and residual effect of bio-insecticide Bacillus thuringiensis israelensis new formulation (tablets) was conducted to control the DHF vector Aedes aegypti larvae. The study was carried out for 4 months (September-December 2003) in Kemalang Village, Klaten District, Central Java Province. A total of 80 earthen water jars (50 liters volume) were distributed in 20 houses and used for treatment (4 dosages, 5 replicates of each treatment). The earthen water jars were filled with stored rain water applying various water usage by the inhabitants as treatment. The bio-insecticides B. thuringiensis israelensis evaluated were VectoBac (dosage 1 tablet/50 liters water), Culinex (dosages 1 and 2 tablets/50 liters water) and larvicida Abate (Themephos, dosage 1 gr/10 liters water) as a comparison. Results of the study indicated that residual effectiveness of Culinex at dosages of 1 and 2 tablet/50 liters of water were 8-9 weeks and 9-10 weeks respectively which were more longer than that of VectoBac at dosages of 1 tablet/50 liters water within only 7 weeks. The residual effectiveness of Abate or Themephos at a dosage 5 gr/50 liters water was more than 11 weeks. The mortality of Ae. aegypti larvae in the earthen water jars treated Culinex both at dosages of 1 and 2 tablet/50 liters of water. It seemed that no significant difference was observed based on the water used by the inhabitants.