

## 4-2. Mosquito Control Evaluation of an Industrial Formulation of *Bacillus thuringiensis* var. *israelensis* in Natural Ponds

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A mosquito larval control evaluation of an industrial formulation (Bactosec<sup>®</sup>) of *Bacillus thuringiensis* var. *israelensis* (*Bti*) against mosquitoes was performed in natural four ponds near Oncheoncheon-stream, Dongrae-gu, Busan during the period of June through September, 2002. In pond assessment where *Culex pipiens pallens* was predominantly breeding in the ponds of 30.0 m<sup>2</sup> to 87.0 m<sup>2</sup> to the five to seven treatments of *Bti* at a concentration of 10~20 kg/ha produced only 37.5%, 64.5%, and 72.5% reduction in 24, 48, and 72 hours after treatment, respectively. In total mean percentage reduction, 58.2% reduction was obtained within the study period probably due to long storage period of *Bti*. Mosquito surveillance was performed to determine whether larval control was effective in the area. The total four species comprising three genera were identified including *Anopheles sinensis*, *Cx. tritaeniorhynchus*, *Cx. pipiens pallens*, and *Ochlerotatus togoi* from the adult collection near Oncheoncheon stream. Among those species, *Cx. pipiens pallens* (mean 31.9/trap) showed the highest population, followed by *Cx. tritaeniorhynchus* (mean 1.5/trap), *Och. togoi* (mean 0.2/trap), and *An. sinensis* (mean 0.1/trap). Residual insecticide sprays did not much affect to decrease of mosquito adults near the study area. It was assumed that major factors to influence population density of the mosquitoes were not adult control but larval control and flood of the ponds in late July, middle August, and early September.