Jinrapa Phothikasikorn 2006: Impacts of Agricultural and Public Health Insecticides on *Anopheles minimus* species complex, Vectors of Malaria in Western Thailand. Doctor of Philosophy (Entomology), Major Field: Entomology, Department of Entomology. Thesis Advisor: Associate Professor Chitapa Ketavan, Docteur d'Universite (Hons). 129 pages.
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The findings of this study indicated the strong association between malaria transmission and ethnic groups. There were at least six ethnic groups that are highly migratory due to the occupation activities in Thong Pha Phoom and Sai Yok Districts of Kanchanaburi Province. Of 232 respondents interviewed, 202 knew the malaria disease. Under the same group of respondents, 102 are at risk of malaria during the epidemic period of dry season.

Insecticide usage in the six villages was surveyed. Bong Ti Noy Village (BTN), Sai Yok District was the highest pesticides used area whereas Mae Num Noy Village (MNN), Thong Pha Phoom District was the lowest pesticides used area. There were significantly lower in mosquito density in the high-pesticide location (BTN) compared to the low-pesticide location (MNN) during the entire study period ($P<0.05$).

There is one prominent biting peak of *Anopheles minimus* (2100-2300 hrs) from both MNN and BTN. The average larval density fluctuated in two selected villages throughout the year with highest density in cool season. In addition, behavioural responded of two wild caught populations on *An. minimus* species A and C to operational field doses of three agricultural compounds, carbaryl, malathion and cypermethrin, and three public health chemicals, DDT, deltamethrin, and lambda-cyhalothrin were characterized using excito-repellency test system and conclude that contact irritancy and non-contact repellency was present in both test populations across alls six chemicals.

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