P145 ASSESSMENT OF PESTICIDE EXPOSURE AMONG SMALLHOLDER TANGERINE FARMERS IN CHIANG MAI PROVINCE, NORTHERN THAILAND

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Objectives To assess the pesticide exposure effect among smallholder tangerine farmers.
Methods It was a prospective study of 50 families of smallholder farmers (50 males (F1) and 50 females (F2)). They were

followed for 3 visits from June 2004-June 2005. In addition, 68 consumers (31 males and 37 females) were enrolled from the studied area as the control group. Farmers and consumers were followed for 3 (ie, V1, V2 and V3) and 2 (ie, V1 and V2) visits, respectively. Demographic, pesticides used, personal protective equipment (PPE), and health data were collected using structured questionnaires. Exposure to pesticides was assessed by measuring acetylcholinesterase (AChE) activity in red cells using Ellman-based method.

Results AChE activities were highly inhibited in both farmers and the consumer group. Inhibition of F1 and F2 in V2 were 37.1 and 38.6% (P<0.00 and <0.00) and in V3 were 32.9 and 36.2% (P<0.00 and <0.00), respectively whereas AChE activity of the consumer group in V2 versus V1 was 27.31% P<0.00).

Conclusions Farmers and consumers showed a significant and consistent inhibition pattern of AChE activities. Effective prevention measures for pesticide exposure from farm and home used should be put in practice.