

## ABSTRACT

Nowadays number of registered pesticides is increasing, in Indonesia (2004), the number of registered pesticides were 1082 trade names up to more than 1500 trade names in 2006. It shows the increasing use of pesticides by farmers. Spraying pesticides that do not meet the rules impacts the farmers' health and the environment. Data in Tuban (2007), severe toxicity 0%, moderate toxicity 16%, mild toxicity 30% and normal 54%. The purpose of this study was describing the use of chemical pesticides on cholinesterase enzyme levels and residues of pesticides in soil.

The study design was descriptive, based on its time used cross sectional study design. Data was collected through observation and interviews. The informant selection through accidental by 25 respondents.

The results showed less knowledgeable respondents 64% had poisoning, poisoning due to a lack of behavior 68%, poisoning because of toxicity pesticide 80%, poisoning due to inappropriate dosage 80%, poisoning due to long working period 72%, poisoning because of good long sprays per day 56%, poisoning because of good spraying frequency 72%, poisoning because of good spraying time 68%, poisoning due to poor spraying position 80%, poisoning due to bad use of personal protective equipment 80%, poisoning because of bad smoking behavior 48%, poisoning due to bad eating behavior/drinking 72%.

The conclusion of usage characteristics include knowledge, attitude, type of pesticide, toxicity, dose, work time of farmers, time spraying per day, frequency of spraying per week, time, position of farmers, the use of PPE, smoking, eating / drinking. There should be training, counseling and guidance regarding the appropriate pesticides application as well as farmers' health examination and inspection of pesticide residues.

*Keywords : usage pesticide' characteristics, cholinesterase, residues*