

Nattanicha Prathummintr 2006: Pesticide Residues in Soils, Sediments, and Water in
Different Soil and Water Conservation Techniques of Mountainous Watershed Agricultural Areas.
A Case Study: Land Development on Highlands Research Station Ban Boukjan, Tambon Samoengtai,
Amphoe Samoeng, Chiang Mai Province. Master of Science (Sustainable Land Use and Natural
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The objectives of this research were to investigate kinds and amounts of pesticide residues in soils, sediments and water from different soil and water conservation techniques and, to compare the effects of different conservation techniques on pesticide residues contents in soils, sediments and water in agricultural areas of mountainous watershed at land development research station on highlands areas of Ban Boukjan, Tambon Samoengtai, Amphoe Samoeng, Chiang Mai province. The results showed that triazophos was found in the every soil samples from all plots of different soil and water conservation measures and in soil samples collected before cultivation season with the range of soil depth between 0-80 centimetre but it was not found in soil samples collected after cultivation season. Prothiophos was found only in surface soil before cultivation, and paraquat was found in soil samples of all plots and all depths of soil profile both before and after cultivation season. In addition, triazophos and paraquat were found in sediments either with the application of conservation measures or without the application soil and water conservation measures, including cultivated plots with different soil and water conservation measures. For water samples, ethion was found in the use and not use soil and water conservation measures, but it was not detected in water samples of conservation measures plot.

When compared the effects of soil and water conservation measures on quantities of pesticide residues in soils, sediments and water, triazophos and paraquat were detected in the area without the application of soil and water conservation measures more than the area with application of soil and water conservation. For experimental plots with difference soil and water conservation techniques, triazophos and paraquat were detected in the highest amount at the plot without application of soil and water conservation measures and with pesticides application, followed by the plot with vetiver grass strip, the plot with natural grass strip, the plot with hillside ditch and the least amount was detected at the plot without application of soil and water conservation measures and without pesticides application, respectively.

Student's signature

Thesis Advisor's signature