

Risk of Pesticides Residues in Vegetarian Population in Muak Lek District, Saraburi Province

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Abstract

Organophosphate and carbamate pesticides are commonly used by Thai farmers and are substantial residues in vegetables. Due to consumption habit, the vegetarian population runs a considerable risk. Therefore, this research investigated the risk of pesticide residues in vegetarian population in the area of Muak Lek District, Saraburi Province. Colorimetric cholinesterase inhibitor assay by MJPk test kit was used to examine the level of pesticides residues in ten vegetable samples. The lowest amount of inhibited enzyme activity of the test kit is 15 % which represents *insecurity* or its *not* being *safe*. The results found that 60% of the samples were contaminated with organophosphate and carbamate. Within the contaminated samples, 40% revealed *insecurity* level and 20% showed *high insecurity*. Morning glory and cabbage sprout were detected at *high* level of *insecurity* vegetables. Washing vegetables either with only water or with other special agents showed significant reduction of pesticide concentration from *insecurity* level to *undetectable* level and from *high insecurity* level to *insecurity* level ($p < 0.01$). In conclusion, this finding may be used as a guideline for monitoring the purchase of vegetables and developing the effective washing methods to reduce the risk of possible exposure to pesticide residues in the vegetarian community.

Keywords: *pesticides, residues, risk, vegetarian, vegetables*