DETERMINATION OF CHLORPYRIFOS RESIDUES IN WATER USING SOLID PHASE MICROEXTRACTION (SPME) AND GAS CHROMATOGRAPHY MASS SPECTROMETRY DETECTOR (GC-MSD)

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ABSTRACT

The abuse use of insecticides in many countries may result in some toxicological risks for consumers by their presence on the vegetables. In this research, a rapid gas chromatography method was used for the determination of the residue levels of chlorpyrifos in vegetables. Two types of vegetables; cabbage and tomato were analyzed for their chlorpyrifos contents. The samples were spiked with different concentrations of standard chlorpyrifos and extracted by solid phase microextraction (SPME). Gas chromatography coupled with mass spectrometry detector (GCMSD) was used to isolate the chlorpyrifos from the sample. The result showed that the concentration of chlorpyrifos in the cabbage sample was 0.55ppm $\pm$ 0.01 whereas the concentration of chlorpyrifos in tomato sample was 0.90 ppm $\pm$ 0.1. The Codex Maximum Residue Limit for cabbage sample is 1 ppm and for tomato sample 0.5 ppm.