ANALYSIS OF PESTICIDES CONTAMINATION IN ORGANICALLY AND CONVENTIONALLY GROWN VEGETABLES USING ACETONITRILE EXTRACTION WITH GC/MS TECHNIQUE

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This Final Year Project entitled "**Analysis of Pesticides Contamination in Organically and Conventionally Grown Vegetables using Acetonitrile Extraction with GC/MS Technique"** was submitted by Nur Syakirah binti Mohd Noh, in partial fulfilment of the requirements for the Degree of Bachelor of Science (Hons.) Chemistry, in the Faculty of Applied Sciences, and was approved by

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ABSTRACT

ANALYSIS OF PESTICIDES CONTAMINATION IN ORGANICALLY AND CONVENTIONALLY GROWN VEGETABLES USING ACETONITRILE EXTRACTION WITH GC/MS TECHNIQUE

Nowadays, consumers are more concerned about food contaminants especially the pesticides residues. Thus, an analysis was performed to determine the types and the percent composition of pesticide residue that can be found in organically and conventionally grown vegetables. The analysis has been done using acetonitrile extraction followed with solid phase extraction (SPE) before analyzed using GC/MS technique. From the results, percent composition of pesticides has been determined. The percentage for organic grown vegetables was 61.27 % while for conventionally grown was 38.73 % for the usage of bis (2-ethylhexyl) phthalate. For the siloxanes which were cyclohexasiloxane (D6), cycloheptasiloxane, cyclooctasiloxane, cyclononasiloxane and cyclodecasiloxane, the average percent composition of siloxane that has been identified in these conventionally grown vegetables was 0.702 % for every 20 g. Furthermore, for fatty acids detection were shows that dodecanoic acid was 6.33 %, hexadecanoic acid 8 %, methyl tetradecanoate (myristic acid) 48.18 % and 9,12 – octadecanoic acid (omega-6) 6.65 % for organic grown vegetables. As for conventionally grown vegetables, the detection of dodecanoic acid was 8.72 %, hexadecanoic acid 6.75 % and methyl tetradecanoate (myristic acid) 15.37 %. This study shows that there were pesticides in organically and conventionally grown vegetables that have been identified.