

**INVESTIGATION OF ORGANOPHOSPHATE CONTENT ON PEAR
AFTER WASHING TREATMENT USING HPLC**

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**Final Year Project Report Submitted In
Partial Fulfillment Of the Requirements for the
Degree of Bachelor of Science (Hons.) Chemistry
in the Faculty of Applied Sciences
Universiti Teknologi MARA**

JANUARY 2015

ACKNOWLEDGEMENT

WITH THE NAME OF ALLAH THE MOST COMPASSIONATE THE MOST
MERCIFUL

Foremost, thankful to God that giving me guidance and the strength in order to complete this research successfully. I am using this opportunity to express my sincere gratitude to my lecturer Madam Siti Raihan binti Zakaria for the continuous support , aspiring guidance and valuable advice during this research.

I also would like to express my deepest appreciation to the laboratory assistant Mr. Fauzi because his always helps and giving me full cooperation if I has a problem during the laboratory work. Without his cooperation, difficult for me to complete the analysis using High Performance Liquid Chromatography (HPLC)..

A special thank to my learning institution which is Universiti Teknologi Mara (UiTM) that giving me the chance to study here. Many facilities provided by the UiTM during my studies and a lot of useful knowledge that I gained here that can be applied to complete this thesis study.

I also want to express my warm thanks to my parent that always give me support to complete this thesis. Finally, appreciation is also dedicated to my fellow friends for their continuous encouragement and morale boosting from beginning to the end in order to finish this research successfully.

Muhammad Firdaus bin Abd Wahab

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ABSTRACT

INVESTIGATION OF ORGANOPHOSPHATE CONTENT ON PEAR AFTER WASHING TREATMENT USING HIGH PERFORMANCE LIQUID CHROMATOGRAPHY

The importance of antioxidant in daily life has gained interest among consumer and scientific community in Malaysia. But the pesticide residue in fruit will give adverse effect to consumer and the pear are also included in the list of top 12 of the contaminated fruit. In this research, the objective was to carried out qualitative analysis of chlorpyrifos in organic pear and to determine the amount of chlorpyrifos content in pear using High Performance Liquid Chromatography (HPLC). Besides that, the effectiveness of the washing solution in removing chlorpyrifos content in pear was also investigated. The simple analytical method using Solid Liquid Extraction (SLE) was employed to extract the pear. A Reverse Phase High Performance Liquid Chromatography with C₁₈ column as stationery phase was used for the separation process and 70:30 mobile phase composition of acetonitrile and water was used as mobile phase. The system was carried out at the wavelength of 230 nm with ultraviolet detector and the flow rate at 1 mL/min. The successful extraction of chlorpyrifos using solid liquid extraction and the amount of the chlorpyrifos in the sample 1, 2, 3, 4, 5 and 6 were 9.7, 3.2, 4.6, 7.2, 7.0 and 1.8 ppm . The percent removal of chlorpyrifos using acetic acid, sodium chloride and tap water were 67%, 53 % and 26 % respectively. As a conclusion, the most effective washing solution was 10 % acetic acid and least effective was tap water. The simple extraction method using Solid Liquid Extraction was successful and the chlorpyrifos was found in the organic pear.