DETERMINATION OF CADMIUM, CHROMIUM AND NICKEL OF POND AND MARINE PRAWN BY USING FLAME ATOMIC ABSORPTION SPECTROSCOPY

ROHAYA BINTI FAUZI

BACHELOR OF SCIENCE (Hons.) CHEMISTRY
FACULTY OF APPLIED SCIENCE
UNIVERSITI TEKNOLOGI MARA

MEI 2008

ACKNOWLEDGEMENT

Bismillahirrahmanirrahim...

In the name of Allah, The Most Merciful and The Most Gracious.

I begin in the name Of Allah S. W. T who sends Muhammad S. A. W as the last Prophet for the guidance the mankind, Trillion of Blessing and Salutition upon him.

Firstly, I would be grateful to God for giving me an effort in completing this report and undertake this course. I would like to express my sincere gratitude and appreciation to my supervisor, Prof Madya Zuraidah Abdullah Munir, for dedication and encouragement. Profuse thanks to her for being very patient, understanding, friendly and for keeping me focused on my work. Without her critics, comments, timely aid and intervention this work may not have materialized. Also to all staff of Science Chemistry program who also shared their help that enable to complete this project.

I would like to express my thanks to all my friends especially Siti Nur Fadhila Mat Razi for their support and guidance. Special thanks to Associate Prof. Dr. Badariah Abu Bakar as the Head of Science Chemistry program.

Last but not least, the deepest thank you and appreciation to my beloved mother and family for their support, love, understanding and all they have done to make this project success. Thank you.

TABLE OF CONTENTS

ABSTRACT

Concentration of Cd, Cr and Ni were determined in tissue tiger prawn (Peneous monandon) and white prawn (Peneous indicus) from two pond and two different sites of marine water prawn. The first pond in Teluk Intan and the second one in Pantai Remis. The marine prawn sample was taken in Merang and Sungai Besar. The concentration of heavy metal in white prawn at Pantai Remis is the highest compared with other sites and the concentration of nickel in sample is so small for all sites, approach to zero. The concentration of heavy metal need to determine by time to time to know it safe for eat or not, because higher concentration of heavy metal can cause side effect in long term or short term for human health.

CHAPTER 1

INTRODUCTION

1.1 Background

Heavy metal poisoning is the toxic accumulation of heavy metals in the soft tissues of the body. There are many ways on how the heavy metals can penetrate into our body systems and for most cases they penetrate through food that we take. Many foods are contaminated by heavy metals and one of them is aquatic organism. It is because heavy metal easy to dissolve in water. Either marine water or fresh water, but the different organ in the body has different absorption level, for example the ability to absorb heavy metal through head is not same with leg.

Consumption of aquatic organism is significant pathways exposure in human population living. Increasing the level of heavy metal in the body will cause health problem and for the long period effect. It also will cause cancer. It is undeniable that our body needs metal such as zinc and magnesium but the quantity needed is very small.

Water quality is the major factor in sustainability of agricultures. Large -scale mortality in marine hatcheries and grow-out farms, poor growth and anatomical aberrations in cultured animals are often attributed to water contamination (M.I.Hashmi at el., 2002) . Marine prawn aquaculture is facing an increasing threat