HEAVY METAL ANALYSIS IN FISH MUSCLE AT PLANT RETENTION POND

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ABSTRACT

Anabas Testudineus or known as Climbing Perch have a size officially around 150-200mm but always appears around 100-120mm. This species can live in the water that have temperature around 15-30°C with the hardness off water from 36 until 447 ppm. This species always found in the drainage system and places with dense vegetables. Climbing Perch become more aggressive under the warm condition compared to cold condition and they will remain buried under the mud during dry season. Several countries they farmed these fish for commercialise.

The aim study for this project is to analyse the heavy metal uptake in different part fish of *Anabas Testudenius* by using Inductively Coupled Plasma (ICP-OES). There were several heavy metals that have been examined in this study which is Arsenic, Chromium, Copper, Iron, Zinc and Manganese. This sample of fish was weighted for every four week and their weight has been checked while leave them at the plant retention pond for two month. Then, the *Anabas Testudenius* has been divided into three parts which is head, body and lastly is tail. The finding of this data has been evaluated by using Microsoft Excel. The part that has lowest value of heavy metal is a tail part with 1.1731 ppm concentration of Iron for tail of Fish 3, 1.2868 ppm concentration of Zinc for tail of Fish 2 and zero reading for heavy metal of Arsenic. Based on the data that has been analysing, mostly part of head has highest value for each types of heavy metal. It shows that the part of head is most dangerous part because it easily contaminated will all types of heavy metal except copper on this experiment.

Heavy metal is naturally found in the earth which is usually has found in the soil, animal and the sediment .Heavy metal is a metal that have atomic number more than 20 and this heavy metal cannot be deleted neither dismiss. From this experiment it can conclude that, either where fish live there will contaminate with heavy metal because our environment has been polluted with all the toxic material and will give negative effect to living thing especially human.

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CHAPTER 1

INTRODUCTION

1.1 SUMMARY

Retention pond has two categories which is dead pond and wet pond and has its own characteristic. Retention pond has own function to reduce the impact on downstream storm water system while the volume will be held in. The advantages of retention pond are can cater all storm, pollutant from the urban areas. Next is the disadvantages of the retention pond is high maintenance to handle with it which is need proper management and monitoring. Nowadays, our environment become more pollute due to rapid development of industry and agriculture. Environment has been exposed to the heavy metal. Next, heavy metal can be divided into two which is essential and non-essential. Heavy metal is a metallic element that has high density, toxic and poison. By determining the concentration heavy metal in fish muscle can improves food quality and can find the solution to control the heavy metal in that area. The species fish that has been used in this research is *Anabas Testedineus* which is known as Climbing Perch. This species leave at the drainage system across such as river and lakes. This *Anabas Testedineus* can live 6 days without water but the organs must keep in the moist conditions. This research the experiment has been done by using Inductively Coupled Plasma-(ICP-OES) as equipment. ICP-OES can detect many element of metal in short period. The procedure to do this experiment was by dry and ashing the sample until no molecules of hydrocarbon (HC) in the