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DETERMINATION OF HEAVY METALS AMONG NILE PERCH AND WATER HARVESTED FROM L. KYOGA LANDING SITES IN KABERAMAIDO DISTRICT, UGANDA

BY

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(BU/UP /2018/3766)

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This dissertation is submitted to the faculty of agriculture and animal sciences in Partial Fulfillment of the Requirements for the Award of the Bachelors Degree of Animal Production and Management of Busitema University

FEBRUARY 2022

ABSTRACT

Heavy metals are elements having relatively high density and are toxic at low concentration; they are divided into essential and non essential heavy metals. They exist naturally within the atmosphere resulting from human and anthropogenic activities. Fish bio-accumulates various heavy metals into their muscles. Heavy metals exist within food chain; man is exposed through consumption of contaminated foods, this result into different health effects such as carcinogenic effects. Heavy metals are determined using various methods such as flame atomic absorption spectrometry. The study aimed at producing baseline data about heavy metals presence, their concentrations in Nile perch samples and water harvested from Lake Kyoga, Kaberamaido district and comparing their concentrations with their respective maximum acceptable limits by W.H.O/F.A.O. Ten Nile perch and water samples were collected randomly once from selected landing sites of Alau and Akapala in Lake Kyoga, Kaberamaido district Uganda. Samples were analyzed at Uganda Industrial Research Institute using Flame atomic absorption spectrometry for heavy metal presence and their concentration. In fish, concentrations ranges of Pb, Cd, and Cr were 0.0–4.858 ppm, 0.308-0.616 ppm and 0.0-0.061 ppm respectively. Ni was not detected in the fish samples. Pb and Cd were higher than their respective recommended limits of 0.2Mg/Kg and 0.05Mg/Kg respectively by F.A.O. Cr was within its recommended limits of 0.1Mg/Kg by F.A.O. In water samples the concentration of Pb was 0.818 ppm and Cr was 0.1190 ppm, these were higher concentration than their maximum acceptable limits of 0.01Mg/Kg and 0.05Mg/Kg respectively by W.H.O. In water, Nickel and cadmium were not detected. Results shown significance between the fish samples collected from the Lake Kyoga landing sites. The reason for the presence of these heavy metals was attributed to pollution of the lake. The study recommended continuous monitoring of heavy metal status in the lake and more studies about heavy metals to be done in other fish species harvested at Lake Kyoga.

DECLARATION

This dissertation report is my own work and has never been submitted to any institution for assistance or award of any academic qualification or academic credit.

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APPROVAL

This dissertation report has been submitted with approval of my Academic supervisor;

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DEDICATION

I dedicate this thesis to my parents Mr. Amiridin Wamubirigwe and Miss Asha Nakimuli for their support to me during the research process. I pray Almighty Allah award them abundantly.

ACKNOWLEDGEMENT

With special thanks allow acknowledge the various personnel that have helped me through the process of the research; Thanks to my Academic supervisor Dr**.** Omadang Leonard who has guided me since the proposal period. Thanks to Research officer chemistry laboratory - Uganda Industrial Research Institute Mr. Waibale Wilber for his guidance about the use of Flame Atomic Absorption Spectrometry during the metal analysis. Finally thanks to the coordinate research Busitema University Arapai campus Dr. Matovu Henry for his guidance to us (students) during the research process.

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ABBREVIATIONS

WHO	World health organisation
FAAS	Flame atomic absorption spectrometry
Pb	Lead
Cd	Cadmium
Cr	Chromium
Ni	Nickel
US EPA	united states environmental pollution agency
LAB	Laboratory
Dr.	Doctor