

**DETERMINATION OF SELECTED HEAVY METALS
CONCENTRATIONS IN WATER SPINACH (*Ipomea aquatica sp.*)**

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TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	viii
ABSTRACT	x
ABSTRAK	xi
CHAPTER 1 INTRODUCTION	
1.1 Background of the study	1
1.2 Problem statement	2
1.3 Significance of study	2
1.4 Objectives of study	3
CHAPTER 2 LITERATURE REVIEW	
2.1 Heavy metals	4
2.1.1 Cadmium (Cd)	5
2.1.2 Zinc (Zn)	6
2.1.3 Copper (Cu)	6
2.1.4 Other metals	7
2.2 Water spinach	7
2.3 Instrumental analysis	9
2.4 Health risk assessment	10
2.4.1 Daily intake of heavy metals	11
2.4.2 Non-carcinogenic risk	11
2.4.3 Carcinogenic risk	12
2.5 Permissible limit	12
CHAPTER 3 METHODOLOGY	
3.1 Chemicals	13
3.2 Apparatus and analytical instrument	13
3.3 Sample collection	13
3.4 Sample preparation	14
3.5 Instrumental analysis	14
3.6 Quality assurance and Quality control (QA/QC)	15
3.7 Health risk assessment	16
3.7.1 Chronic daily intake (CDI)	16
3.7.2 Non-carcinogenic risk	17
3.7.3 Carcinogenic risk	18
3.8 Standard limit	19

CHAPTER 4 RESULT AND DISCUSSIONS	
4.1 Heavy metals concentration in water spinach	20
4.2 Health Risk Assessment	23
4.2.1 Daily intake of heavy metals (CDI)	23
4.2.2 Non-carcinogenic risk	25
4.2.3 Carcinogenic risk	26
4.3 Comparison with Permissible Limit	27
CHAPTER 5 CONCLUSION AND RECOMMENDATIONS	
5.1 Conclusion	29
5.2 Recommendation	30
CITED REFERENCES	31
APPENDICES	36
<i>CURRICULUM VITAE</i>	49

LIST OF TABLES

Table	Caption	Page
2.1	Maximum permissible level of heavy metals in vegetables (mg/kg).	12
3.1	The selected wavelength in ICP-OES	15
3.2	The oral reference dose of heavy metals	18
3.3	Standard limit values for heavy metals in vegetables.	19
4.1	The analyzed concentration of heavy metals in selected sources and control (mg/kg) (mean± standard deviation, n=3)	21
4.2	Chronic daily intake of heavy metals from consuming water spinach (mg/kg)	23
4.3	The non-carcinogenic risk to human health by consuming water spinach	25
4.4	The cancer risk to human health by consuming water spinach	26
4.5	Comparison of permissible limits with the analyzed heavy metals in vegetables (water spinach) (mg/kg)	27

ABSTRACT

DETERMINATION OF SELECTED HEAVY METALS CONCENTRATIONS IN WATER SPINACH (*Ipomea aquatica* sp.)

Vegetables are essential in human diet but unfortunately it may also contribute to heavy metals consumption. Heavy metals in vegetables are related with direct and indirect adverse health effects. This study determined the selected of heavy metals concentration (Mn, Cu, Zn and Pb) for leaves and stem part in water spinach (*Ipomea Aquatica*) that taken from different sources around Jengka and UiTM area. The aim for this study was to estimate the health risk assessment of heavy metals in water spinach to human health and to compare the heavy metal concentration with the permissible limit value stated by WHO/FAO. The concentrations of heavy metal were analyzed using Inductively Coupled Plasma-Optical Emission Spectroscopy (ICP-OES). The results showed that the water spinach sample from source A (leaves) were higher in manganese which is 9.41 mg/kg rather than other studied metals and it has exceed the permissible limit value by WHO. All of the water spinach samples for leaves and stem part showed no hazard level since the HQ values were less than 1. All tested samples for water spinach were safe to be consumed and did not pose any risk to human health because the HQ values are lower.