# ANTIOXIDANT ACTIVITY OF *Pithecellobium bubalinum* IN SEVERAL PREPARATION OF SEED INTAKE

### NORAZMUNIRA BINTI IBRAHIM

Final Year Project Submitted in Partial Fulfillment of the Requirement for the Degree of Bachelor Of Science (Hons.) Biology In the Faculty of Applied Sciences Universiti Teknologi MARA This Final Year Project Report entitled "Antioxidant Activity of *Pithecellobium bubalinum* in Several Preparation of Seed Intake" was submitted by Norazmunira Binti Ibrahim, in partial fulfillment of the requirements for the Degree of Bachelor Science (Hons.) Biology, in the Faculty of Applied Sciences was approved by

Dr Nor'aishah Abu Shah Supervisor B. Sc. (Hons.) Biology Faculty of Applied Sciences Universiti Teknologi MARA 72000 Kuala Pilah Negeri Sembilan

Lili Syahani Bt. Rusli
Project Coordinator
B. Sc. (Hons.) Biology
Faculty of Applied Sciences
Universiti Teknologi MARA
72000 Kuala Pilah Negeri Sembilan

Dr Nor'aishah Abu Shah Head of Programme B. Sc. (Hons.) Biology Faculty of Applied Sciences Universiti Teknologi MARA 72000 Kuala Pilah Negeri Sembilan

Date:		

## TABLE OF CONTENT

ACKNOWLEDGEMENTS TABLE OF CONTENTS LIST OF TABLES LIST OF FIGURES LIST OF ABBREVIATIONS ABSTRACT ABSTRAK			PAGE iii iv v vi vii vii
CH	ADTFD 1	: INTRODUCTION	
1.1		round of Study	1
1.2	_	em Statement	2
1.3		icance of the Study	3
1.4	Object	4	
СНА	APTER 2	: LITERATURE REVIEW	
2.1	_	gical description	5
	2.1.1	Pithecellobium bubalinum	5
	2.1.2	Healthy diets and food	7
2.2	Antiox		7
		Definition	7
	2.2.2	Levels of antioxidant action	9
	2.2.3	J	10
2.3	Extract	Extraction from P. bubalinum	
	2.3.1Et	hanol extract	11
	2.3.2Di	stilled water extract	11
2.4	Chemi	cal constituents and antioxidant evaluation	11
	2.4.1	Phenolic compound	12
СНА	APTER 3	: METHODOLOGY	
3.1	Materials		13
	3.1.1	Raw materials	13
	3.1.2	Chemicals	13
	3.1.3	Apparatus	13
3.2	Metho	Methods	
	3.2.1	Sample collection	14
	3.2.2	Seed extraction by using distilled water	14
	3.2.3	Seed extraction using ethanol	15

	3.2.4Soxhlet Extraction	16
	3.2.5 DPPH radical-scavenging activity	17
	3.2.6Determination of total phenolic content	18
3.3	Statistical analysis	18
CHA	APTER 4: RESULTS AND DISCUSSION	
4.1	DPPH assay	21
4.2		27
CHA	APTER 5: CONCLUSION AND RECOMMENDATIONS	33
CIT	ED REFERENCES	35
APPENDICES		
CUF	RRICULUM VITAE	53

#### **ABSTRACT**

## ANTIOXIDANT ACTIVITY OF *Pithecellobium bubalinum* IN SEVERAL PREPARATION OF SEED INTAKE

Pithecellobium bubalinum or better known as 'Kerdas' among Malaysians is a type of 'ulam' that is used in traditional medicine to treat various kind of diseases such as reduced cardiovascular diseases and certain cancers. This study aims to increase the awareness of folks about antioxidant potential in P. bubalimum, to determine the antioxidant properties in ethanol extract and finally to suggest the best way of consuming P. bubalinum seeds in a way that the most effective in terms of antioxidant content. DPPH radical-scavenging activity of P. bubalinum was evaluated by using the formula to obtain the percentage of DPPH control. While total phenolic was determined by the Folin-Ciocalteu method and calibration curve with gallic acid as standard solution was plotted. Results showed roasted seed extract at concentration 50 µg/ml had the least DPPH radical scavenging activity of 58.74% whereas raw seed extract at concentration 200 µg/ml had the highest activity of 96.84%. As for the TPC, the result showed that phenolic content in ethanol was 10.10 GAE/ml in raw seed eating, 6.53 GAE/ml for roasted seeds by direct flame and 8.97 GAE/ml for curing seeds in soil. Hence, raw seed extract are the best method compared to roasted and curing in soil seeds extract based from the result in the DPPH assay and TPC. There are antioxidants activities of P. hubalimum in ethanol extract.