

EFFECT OF YOUNG AND MATURED GINGER (*Zingiber officinale*) MARINATES ON TENDERIZING THE BUFFALO MEAT

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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	ix
ABSTRAK	x
CHAPTER 1: INTRODUCTION	
1.1 Background of Study	1
1.2 Problem Statement	5
1.3 Significance of Study	6
1.4 Objectives of Study	8
CHAPTER 2: LITERATURE REVIEW	
2.1 Buffalo Meat	9
2.1.1 Meat composition	10
2.1.2 Meat quality	11
2.1.3 Meat tenderness	13
2.2 Proteolytic Enzyme	15
2.2.1 Papain	20
2.2.2 Zingibain	22
2.3 Source of Plant Proteolytic Enzyme	23
CHAPTER 3: METHODOLOGY	
3.1 Materials	26
3.1.1 Raw materials	26
3.1.2 Apparatus	26
3.2 Methods	27
3.2.1 Sample preparation	27
3.2.2 Plant collection and preparation of crude extract	27
3.2.3 Plant extract treatment and marination	28
3.3 Analysis of Samples	29
3.3.1 pH	29
3.3.2 Moisture	30
3.3.3 Cooking yield	30
3.3.4 Texture profile analyzer (TPA)	31
3.4 Sensory Evaluation	32
3.5 Statistical Analysis	32

CHAPTER 4: RESULTS AND DISCUSSION	
4.1 Physicochemical attributes	33
4.1.1 pH	33
4.1.2 Cooking yield	36
4.1.3 Moisture content	38
4.2 Texture Profile Analysis (TPA)	40
4.3 Sensory characteristics	43
CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS	46
CITED REFERENCES	47
APPENDICES	51
CURRICULUM VITAE	58

ABSTRACT

EFFECT OF YOUNG AND MATURED GINGER (*Zingiber officinale*) MARINATES ON TENDERIZING THE BUFFALO MEAT

The use of synthetic and non-natural products as meat tenderizer gives potential health problem and lasting side effects to human, thus the use of ginger as a natural meat tenderizer was proposed. A study was carried out to determine the effectiveness and potential effect of young and matured ginger (*Zingiber officinale*) marination treatment compared with commercialized meat tenderizers on the physicochemical attributes of buffalo meat. The buffalo meat chunks with uniform weigh were marinated with different concentration (20% and 47% v/w) of young and matured ginger extract, commercialized meat tenderizer (positive control), and 0% distilled water (negative control) for 24 hours at $4 \pm 1^\circ\text{C}$. The preserved samples were cooked for 20 minutes at 99°C . Both raw and cooked meat samples were evaluated to physicochemical analysis. Treatment with 47% young ginger extract enhanced the cooking yield and significantly ($p < 0.05$) decrease the hardness of the treated meat samples. Treatment with 47% young ginger extract increased significantly ($p < 0.05$) for the moisture content of the cooked sample compared to matured ginger extract. TPA results shows the hardness for 47% young ginger extract treatment decreased significantly ($p < 0.05$) in comparison with matured ginger. Sensory evaluation scores shown a significant ($p < 0.05$) enhancement in tenderness, chewiness, and overall acceptability of young ginger treated samples compared to matured ginger and negative control. Based on the moisture content, TPA values and sensory evaluation, it can be suggested that 47% young ginger extract (*Zingiber officinale*) has the potentiality to be used as meat tenderizer.