

CONTENTS

Item

Dedication

Acknowledgement

Abstract

Arabic Abstract

Contents

List of Tables

List of Figures

List of Appendices

CHAPTER ONE:INTRODUCTION

CHAPTER TWO:LITERATURE REVIEW

2.1 Honey definition

2.2 Honey carbohydrates

2.3 Moisture content of honey

2.4 Acids of honey

2.5 Ash ,acidity, Minerals and pH

2.6 Enzymes of honey

2.7 Colour

2.8 Honey contaminants

2.8.1 Solid contaminants

2.8.2 Toxic compounds contaminants

2.9 Microbiological composition

2.9.1 Bacteria

2.9.2 Yeasts and moulds of honey

CHAPTER THREE: MATERIALS AND METHODS

3.1. Materials

3.1.1 Collection of the local samples

3.1.2 Collection of the imported samples

3.1.3 labeling and storage

3.2 Methods

3.2.1 Sample preparation

3.2.2 Determination of moisture content and refractive index

3.2.3 Determination of acidity

3.2.4 Determination of pH

3.2.5 Determination of specific gravity

3.2.6 Determination of viscosity

3.2.7 Determination of total sugars

3.2.8 Determination of reducing sugars content

3.2.9 Determination of sucrose

3.2.10 Determination of glucose

3.2.11 Determination of fructose

3.2.12 Microbiological analysis

3.2.12.1 Equipment and Requirement

3.2.13 Sterilization of glass ware

3.2.14 Determination of microbial load of Sudanese honey

3.2.14.1 Preparation of serial dilutions and media

3.2.14.2 Total viable count bacteria

3.2.14.3 Yeasts and moulds

- 3.2.14.4 *Staphylococcus aureus*
- 3.2.14.5 Detection of *Salmonella*
- 3.2.14.6 Determination of Coliformed bacteria
 - 3.2.14.6.1 Presumptive test
 - 3.2.14.6.2 Confirmed test for total coliforms
 - 3.2.14.6.3 Confirmed test of *E.coli* test
- 3.2.14.7 *Clostridium botulinum* test
- 3.2.15 Statistical Analysis

CHAPTER FOUR: RESULT AND DISCUSSION

- 4.1 Physicochemical Characteristics of Different Sudanese honeys
 - 4.1.2 Moisture Content
 - 4.1.2 Acidity
 - 4.1.3 pH
 - 4.1.4 Specific gravity
 - 4.1.5 Viscosity
 - 4.1.6 Refractive index
- 4.2 sugars content of different Sudanese honey
 - 4.2.1 Total Sugars (%)
 - 4.2.2 Reducing sugars
 - 4.2.3 Sucrose
 - 4.2.4 Glucose
 - 4.2.5 Fructose
- 4.3 Total Microbial count of different Sudanese honeys
 - 4.3.1 Total bacterial viable count (cfu/ml)
 - 4.3.2 Total coliforms (MPN/gram)

4.3.3 Total yeasts and moulds

4.4 Detection of pathogenic microorganism in different Sudanese honeys

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATION

5.1 Conclusions

5.2 Recommendations

References

Appendices

LIST OF TABLES

Table Page	Title
Table 2.1. 8	General composition of Australian honey
Table 2.2. 9	Specification of Sudanese honey
Table 2.3. 9	Physical properties of honey
Table 2.4. 10	Representative floral sources from Australian
Table 2.5. 16	Minerals and vitamins in honey
Table 2.6. 17	Color grade of honey and their corresponding values
Table 4.1. 43	Physicochemical characteristics of different Sudanese honeys
Table 4.2. 53	Sugars content of different Sudanese honey
Table 4:3 61	Total microbial count of different Sudanese honeys
Table 4:4 64	Detection pathogenic microorganism in different Sudanese honey

LIST OF PLATES

Plate	Title
Page	
Plate 1	Viscotester model (HAAKE 6 PLUS THERMO)
28	
Plate 2	Sensitive balance and media for
microbiological analysis	36
Plate 3	preparing and weighting media for microbial
analysis	37
Plate 4	preparing samples for analysis
38	
Plate.5	Media ready for culturing
39	
Plate.6	Culturing samples of honey for microbial
analysis	40

LIST OF FIGURES

Figure Page	Title
Fig 4.1 44	Moisture content of different Sudanese honeys
Fig.4.2 46	Acidity of different Sudanese honeys

Fig.4.3 47	pH of different Sudanese honeys
Fig.4.4 49	Specific gravity of different Sudanese honeys
Fig. 4.5 50	Viscosity of different Sudanese honey
Fig. 4.6 51	Refractive index of different Sudanese honeys
Fig. 4.7 54	Total sugars of different Sudanese honeys
Fig. 4.8 55	Reducing sugars of different Sudanese honeys
Fig. 4.9 57	Sucrose of different Sudanese honeys
Fig 4.10. 59	Glucose of different Sudanese honeys
Fig. 4.11 60	fructose of different Sudanese honeys
Fig. 4.12. 62	Total bacterial viable count (cfu/ml) in different Sudanese honeys

LIST OF APPENDICES

Appendix Page	Title
Appendix (1): 75	Table for the estimation of moisture content
Appendix (2) honeys 76	Bacterial growth in sample A in Sudanese
Appendix (3) 77	Presumptive coliform test
Appendix (4) 78	Growth yeasts and moulds in sample E
Appendix (5) 79	Sudanese honey specifications