

الْحَاقَّةُ

قال تعالى :

وَأَوْحَىٰ رَبُّكَ إِلَى النَّحْلِ أَنْ اتَّخِذِي مِنَ الْجِبَالِ بُيُوتًا وَمِنَ الشَّجَرِ وَمِمَّا يَعْرِشُونَ (٦٨) ثُمَّ كُلِي مِن كُلِّ

الثَّمَرَاتِ فَاسْلُكِي سُبُلَ رَبِّكِ ذُلُلًا يَخْرُجُ مِنْ بُطُونِهَا شَرَابٌ مُّخْتَلِفٌ أَلْوَانُهُ فِيهِ شِفَاءٌ لِلنَّاسِ إِنَّ فِي ذَٰلِكَ لَآيَةً

لِقَوْمٍ يَتَفَكَّرُونَ (٦٩) سورة النحل

صدق الله العظيم

DEDICATION

To those who taught me the meaning of life, my parents.

**To those who made my life nice, my friends, sisters,
brothers and my fiancé.**

To everyone who taught me a letter, my teachers.

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I would like to thank God for giving me health and strength which without them I would not have been able to complete this Research.

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	Index	
1	Chapter one Introduction and literature review	Page
1-1	General	1
1.1.1	Enzymatic reaction of honey making	2
1.1.2	Nutritional value of honey	2
1.1.3	Composition of honey	3
1.1.3.1	Water content	5
1.1.3.2	Sugars	5
	Classification of sugars	6
	Structure of saccharides	7
1.1.3.3	Acids	10
1.1.3.4	Protiens and amino acids	10
1.1.3.5	Minerals	11
1.1.3.6	Enzymes	12
1.1.4	Physical properties of honey	12
1.1.4.1	Color	12

1.1.4.2	Odor and flavor	13
1.1.4.3	Density	13
1.1.4.4	Specific gravity	13
1.1.4.5	Viscosity	13
1.1.4.6	Refractive index	13
1.1.4.7	Electrical conductivity	13
1.1.5	Methods of sugars determination	14
1-1-5-1	Chromatographic and Electrophoretic methods	15
1.1.5.2	Chemical methods	16
1.1.5.2	Titration method	16
1.1.5.3	Gravimetric method	17
	Colorimetric method	17
	Enzymatic methods	18
1-1-5-4	Physical method	19
	Polarimetry	19
	Refractive index	19
	Density	20
	Infrared	20
	Immunoassays	20

1.2	Literature review	21
1.3	Medicinal and importance of honey	22
	Objective	24
	Chapter two Materials and method	
2.1	Sampling	25
2.2	Instruments	25
2.3	Chemicals	25
2.4	Methods	26
2.4.1	Physical properties	26
2.4.1.1	Refractive index	26
2.4.2	Chemical properties	26
2.4.2.1	pH	26
2.4.2.2	Water content	26
2.4.3	HPLC method	26
2.4.4	Lane-Eynon method	28
2.4.4.1	Determination of reducing sugar	28

2.4.4.2	Determination of sucrose	29
2.4.5	Determination of glucose by iodometric titration	29
	Chapter three	
3	Result and dissussion	30
3.1	Physical tests	30
3.1.1	Refractive index	30
3.2	Chemical tests	30
3.2.1	pH	30
3.2.2	Water content	30
3.3	Results of sugars determination	30
3.3.1	Results of HPLC method	30
3.3.2	Results of Lane-Eynon method	31
3.3.3	Results of iodometric titeration	32
	Chapter four Recommendation	
4	Recommendation	35
	References	36

	Appendixes	
	Appendix I chromatogram of standard sugars	38
	Appendix II chromatogram of sample 1	39
	Appendix III chromatogram of sample 2	40
	Appendix IV chromatogram of sample 3	41
	Appendix V	42

Tables

NO	Title	Page No
Table 1-1	Average composition of floral and honeydew honey and range of values	4
Table 2-2	Mineral content of light and dark honey	12
Table3-1	Glucose, fructose, sucrose and maltose percentage	31
Table 3-2	Reducing sugar and sucrose percentage	31
Table 3-3	Glucose percent	32
Table 3-4	F/G ratio	32
Table 3-5	Total reducing sugars content (as % of honey sample)	34

ABSTRACT

The aim of this research was to determine the percentage of conventional sugars (glucose, fructose, sucrose and maltose) in three honey samples collected from South Sudan, Al Fashir and Al Gadarif. The values of refractive index, pH, and water content were also measured. The refractive indexes were 1.490, 1.490 and 1.489 The pH values were 4.26, 4.37 and 4.32 and the water contents were 18, 18.1 and 15.4 respectively.

The percentage of glucose, fructose, sucrose determined by classical methods (Lane-Eynon and iodometric titration) were 36.2, 37.48 and 2.35 in South Sudan sample, 33.9, 36.5 and 3.9 in Al Fashir sample, 40.00, 19.66 and 11.36 in Al Gadarif sample, respectively.

The percentage of glucose, fructose, sucrose, and also maltose determined by HPLC were 31.98, 38.41, 0.423 and 1.294 in South Sudan sample; 35.32, 37.41, 0.702 and 0.790 in Al Fashir sample and 35.80, 33.40, 15.71 and 0.1 in Al Gadarif sample respectively.

The results obtained by HPLC were usually more accurate, because the technique is more sensitive compared with classical methods.

The F/G (fructose/glucose) ratio of the honey of South Sudan and Al Fashir were seemingly more genuine than that of Al Gadarif that might be adulterated with other sweeteners, most likely cane honey or molasses (artificial honey).

مستخلص البحث

الهدف من هذا البحث هو تحديد نسبة السكريات التقليدية (الجلوكوز ، الفركتوز ، والسكروز و المالتوز) في ثلاث عينات من العسل تم جمعها من جنوب السودان و الفاشر و القصارف . وتم قياس قيمة معامل الانكسار ودرجة الحموضة ومحتوى المياه و حصل على معامل الانكسار ١,٤٩ ، ١,٤٩ ، ١,٤٨٩ على التوالي، درجة الحموضة ٤,٢٦ ، ٤,٣٧ ، ٤,٣٢ المحتوي المائي ١٨,١ ، ١٨,٤ ، ١٥,٤ على التوالي.

وقد رت نسبة كل من الجلوكوز، و الفركتوز ، والسكروز باستخدام الطرق التقليدية (لين اينون و المعاييرة اليودومترية) و وجدت على التوالي في عينة جنوب السودان ٣٦,٢ ، ٣٧,٤٨ ، ٢,٣٥ وفي عينة الفاشر ٣٣,٩ ، ٣٦,٥ ، ٣,٩ في عينة آل القصارف ٤٠,٠٠ ، ١٩,٦٦ ، ١١,٣٦ كما قدرت نسبة كل من الجلوكوز، و الفركتوز ، والسكروز ، المالتوز باستخدام تغذية الفصل الكروماتوغرافي (HPLC) ووجدت على التوالي في عينة جنوب السودان ٣١,٩٨ ، ٣٨,٤١ ، ٠,٤٢٣ في عينة الفاشر ؛ ٣٥,٣٢ ، ٣٧,٤١ ، ٠,٧٠٢ ، ٠,٧٩٠ في عينة القصارف ٣٥,٨٠ ، ٣٣,٤٠ ، ١٥,٧١ ، ٠ .

كانت النتائج التي حصل عليها من قبل (HPLC) أكثر دقة ، لأن الأسلوب هو أكثر حساسية مقارنة بالطرق التقليدية.

من تقدير نسبة (الفركتوز / الجلوكوز) وجدنا أن العسل من جنوب السودان و الفاشر طبيعي بينما العسل من القصارف يمكن ان يكون خلط مع غيره من المحليات على الارجح عسل القصب أو الدبس (العسل الاصطناعي)