

# الآيَة

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ  
 قَالِ تَعَالٰی :  
 { وَمَا یَسْتَوِی الْبَحْرَانِ هَذَا عَذْبٌ فُرَاتٌ  
 سَائِغٌ شَرَابُهُ وَهَذَا مِلْحٌ اَجَاجٌ وَمِنْ کُلِّ  
 تَأْکُلُوْنَ لَحْمًا طَرِیًّا وَتَسْتَخْرِجُوْنَ حِلِیَّةً  
 تَلْبَسُوْنَهَا وَتَرِی الْفُلْکَ فِیْهِ مَوَآخِرَ لِتَبْتَغُوْا  
 مِنْ فَضْلِہِ وَلَعَلَّکُمْ تَشْکُرُوْنَ }

صدق الله العظيم ...  
 فاطر (12).

Nor are the two bodies of flowing water alike,- the one palatable, sweet, and pleasant to drink, and the other, salt and bitter. Yet from each (kind of water) do ye eat flesh fresh and tender, and ye extract ornaments to wear; and thou seest the ships therein that plough the waves, that ye may seek (thus) of the Bounty of Allah that ye may be grateful.

## DEDICATION

*I, DEDICATE THIS WORK... To:*

**My...**

*Dear... Father,*

**My ...**

*Dear... Mother,*

**My ... Second**

**Father** (*Brother Mohammedeen Abu-*  
*alhassan*),

**My ...**

*Brothers,*

**My... Sisters,**

**My ...**

*Sisters-in-law,*

**All... my**

*Uncles and Aunts,*

**My ...**

*Nephews,*

**ALL...**

*friends,*

**And all my....**

*Ichthyologists*

*Researcher,,,,,*

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**Researcher,,,**

### **ABSTRACT**

The Sudanese fermented fish product (Terkin) falls in the category of Sudanese Traditional fish products. The comparative study of this present work was conducted to determine and compare the nutritive values, mainly; Crude Protein, Crude Fibre, Ether Extract, Moisture, Dry Matter, Ash and Nitrogen Free Extract of commercial Terkin product which was collected from Jebel Al-aulia dam (Khartoum State, 45Km south of Khartoum) and Wadi Halfa Town (lied in Sudanese-Egyptian border in the north of Sudan). In addition, Total Bacterial Count and pH levels were investigated in order to ensure the hygienic situation of two

products, according to the Sudanese Standards and Metrology Organization (SSMO), SDS 3767/2007.

The results of this study revealed highly significant differences ( $p \leq 0.01$ ) in Crude Protein 24.0% and 30.7%, Ether Extract 6.3% and 11.8%, Moisture 56.4% and 39.2%, Dry Matter 43.6% and 60.8% and Ash 13.2% and 19.1% for Jebel Al-aulia Terkin and Wadi Halfa Terkin, respectively. There was no significant difference ( $p > 0.05$ ) in Crude Fibre 1.5% and 1.2% and Nitrogen Free extract 3.1% and 3.4% for Jebel Al-aulia Terkin and Wadi Halfa Terkin, respectively. Also, the findings showed that, there was no significant difference ( $p > 0.05$ ) in Total Bacterial Count  $3.5 \times 10^5$  CFU/g and  $6.2 \times 10^5$  CFU/g in Terkin of Jebel Al-aulia and Wadi Halfa, respectively. Also, the findings revealed that, there was a highly significant difference ( $p \leq 0.01$ ) in pH values 7.2 and 6.7 in Terkin of Jebel Al-aulia and Wadi Halfa, respectively.

## المستخلص

التركيب عبارة منتج سمكي سوداني (مملح-رطب ومتخمّر)، يُصنّف مع فئة المنتجات السمكية التقليدية السودانية. هدفت هذه الدراسة لمقارنة القيمة الغذائية تحديداً: البروتين الخام، الألياف الخام، الدهون، الرطوبة، المادة الجافة، الرماد و المتسخلص الخالي من النيتروجين للتركيب المصنوع للأغراض التجارية الذي جُمع من جبل الأولياء (ولاية الخرطوم) و مدينة وادي حلفا (أقصى شمال السودان). بالإضافة إلى ذلك، تم تحديد الحمل الميكروبي و الرقم الهيدروجيني بغرض التأكد من الحالة الصحية للمنتجين. تمّ جمع العينات وفقاً للأسس التي أشارت إليها هيئة المواصفات

والمقاييس السودانية لأخذ عينات الأسماك (رقم م/س/د/ق 3767/2007).

أظهرت نتائج التحليل الإحصائي وجود فروق معنوية عالية ( $p \leq 0.01$ ) في كل من البروتين الخام 24.0% و 30.7%، الدهون 6.3% و 11.8%، الرطوبة 56.4% و 39.2%، المادة الجافة 43.6% و 60.8% و الرماد 13.2% و 19.1% للتركيب المصنَّع في جبل الأولياء ووادي حلفا، على التوالي. كما أظهرت النتائج، ليس هنالك فرق معنوي ( $p > 0.05$ ) في كل من الألياف الخام 1.5% و 1.2% والنيتروجين الحر 3.1% و 3.4% للتركيب في المصنوع في جبل الأولياء ووادي حلفا، على التوالي. كذلك أظهرت النتائج عدم وجود فرقاً معنوياً ( $p > 0.05$ ) في الحمل الميكروبي  $10^5 \times 3.5$  مستعمرة و  $10^5 \times 6.2$  مستعمرة للتركيب المصنوع جبل الأولياء و منطقة وادي حلفا، على التوالي. وأيضاً أظهرت النتائج وجود فرق معنوي ( $p \leq 0.01$ ) في الرقم الهيدروجيني 7.2 و 6.7 للتركيب المصنوع جبل الأولياء و منطقة وادي حلفا، على التوالي.

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