

الاية

قال تعالى:

(اقرأ باسم ربك الذي خلق* خلق الإنسان من
علق* اقرأ وربك الأكرم* الذي علم بالقلم* علم
الإنسان ما لم يعلم*)

سورة العلق الآيات (1-5)

DEDICATION

To my husband, my father and my mother
,To all those who made this work possible
.with ever lasting love

,Nazik

Acknowledgement

First of all I thank only one we believe in (Allah), who gave me the
.aptitude and patience to conduct and finish this work

Gratitude is expressed to my supervisors, Prof. Imad Mohamed Tahir
Fadlalla and Prof. Mohamed Elsheikh Barri for their valuble assistance,
.guidance and patience throughout the course of my study

My great appreciations are expressed to Eng. Abolgasim Ahmed
Abolgasim, the minster of Compensation Commission, Darfur Authority,
Khartoum for providing the experimental animals, feeds and their support
.through the course of the experiment

The cooperation of the Camel Research Centre Tumbol,
.Sudan is gratefully acknowledged

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List of abbreviations

Average daily gain	ADG
base pair	Bp
complementary DNA	cDNA
crude protein	CP
dry matter	DM
Dry matter intake	DMI
feed conversion ration	FCR
glutamate oxaloacetate transaminase	GOT
glutamate pyruvate transaminase	GPT
high density lipoprotein	HDL
intermediate density lipoprotein	IDL
kilo Dalton	KD
low density lipoprotein	LDL
metabolisable energy	ME
messenger RNA	mRNA
polymerase chain reaction	PCR
sodium dodecyl sulfate-based polyacrylamide gel electrophoresis	SDS-PAGE
very low density lipoprotein	VLDL

ABSTRACT

Forty five Sudanese camels (*Camelus dromedarius*) two types Butana and Darfurian at the age of (18-24 month) and average body weight at (225.5±35 kg) were purchased from a local livestock market, used in a feeding trial for 120 days. At the start of the experiment (Camel Research Centre, Tumbol) the camels were divided into two groups as zero browsing .and free browsing groups

The animals were fed complete ration composed of traditional ingredients of crushed sorghum grains as the main source of energy and groundnut cake as the major source of protein, so as to reduce the cost of feeding, sugar cane molasses and urea were incorporated as major sources of energy and nitrogen, respectively. Wheat bran was added to the diets to adjust their total metabolizable energy (ME) and crude protein contents. In addition, Dura husk (semema) was added to the concentrate diet as roughage to study the effects of fattening on dry matter intake (DMI), feed conversion ratio (FCR), feed intake , body weight gain and some blood parameters which include total protein, albumin, globulin, urea, uric acid, creatinine, glucose, total cholesterol, HDL, LDL, VLDL, triglycerides, Na, P, the activity of ALT and AST, also on the various fractions of camel lipoproteins by using polyacrylamide gel electrophoresis and the expression of apolipoprotein B mRNA using Agarose gel electrophoresis The animals were individually weighed weekly , blood samples and tissue

samples were taken weekly. Blood metabolites were measured using
(standard methods. The data was analysed using student (t test

The results revealed a significant increase ($P < 0.05$) in mean body weight and average growth rate in zero browsing groups as compared to free browsing groups. The average total gain was almost double in zero browsing groups than free browsing group. Furthermore, the study showed no significant ($P < 0.05$) differences in the average daily gain (ADG), feed intake and Feed conversion ratio (FCR) among the types groups

The results obtained showed that the feedlot performance had
significant effects on some blood metabolites and minerals concentrations

The results revealed a significant increase ($P < 0.05$) in the concentration of plasma glucose, triglycerides, serum urea, creatinine, cholesterol, HDL- cholesterol, sodium and glutamate oxaloacetate transaminase concentrations in zero browsing group than the free browsing
camels

Also there was neither apparent change in quantitative nor qualitative protein pattern distribution between zero browsing and free browsing in the LDL-rich fraction. While, there was a noticed increase in expression of protein in the HDL fraction as observed by wide protein bands at 27 KD when compared with free browsing group. Liver homogenate of lipoprotein in zero grazing group showed dense clear banding at low molecular weight
in the range of 10 KD

This dense band not clearly proved to appear in the free browsing
group

The specific band at 125 bp indicates the presence of the cDNA corresponds to ApoB gene in our samples with higher rate of expression in (the hepatic tissue as compared to other tissues (muscles and adipose tissue Availability of feed could induce significant physiological and biochemical changes in the camel and therefore, it is beneficial to provide .concentrate feed to export camels

المخلص

أجريت هذه الدراسة علي 45 من ذكور الإبل السودانية (بطانة ودارفور) و التي تتراوح أعمارها بين (18-24 شهر) وأوزانها (35±225 كجم). والتي تم شرائها من سوق المشية المحلي. أجريت التجربة بمركز أبحاث الإبل، تمبول لمدة 120 يوم. قسمت إلي مجموعتين 25 من الإبل في النظام المغلق (15 دارفوري، 11 بطانة) و 20 منها ترعي طبيعي (11 دارفوري، 9 بطانة). تم تغذية الإبل بعليقة متكاملة تتكون من دريش الذرة، امباس الفول، المولاس، يوريا، ردة القمح والصميمة وذلك لمعرفة مدي تأثير عملية التسمين علي كمية العلف المتناول ومن ثم أوزانها (الزيادة الوزنية) ومعدل الكفاءة التحويلية وعلي بعض نواتج التمثيل الغذائي بالدم والتي تشمل الجلوكوز والبروتين والألبومين والكليسترول والكرياتين والجلسريدات الثلاثية و اليوريا وحمض اليوريك والصوديوم والكالسيوم والانزيمات والدهون، بالإضافة الي عزل الحامض النووي و تفاعل البلمرة المتسلسل (PCR) و التفريد الكهربائي للبروتينات و الحامض النووي على جل الأكريلاميد و الأكاروز و الصبغ بالخماسي الأزرق و فصل البروتينات بالكروماتوغراف.

أعطيت المجموعة تحت النظام المغلق كمية مفتوحة (حررة) من عليقة التسمين ومن ثم حساب المتناول اليومي من العلف وأخذ الوزن الأسبوعي و عينات الدم والانسجة لتحليل نواتج التمثيل الغذائي بهم.أستمرت التجربة لمدة 120 يوم.

تم تحليل البيانات باستخدام اختبارات (t) لمعرفة مدي تأثير التسمين علي كل من نواتج التمثيل الغذائي بالدم والانسجة لحيوانات التجربة.

أظهرت الدراسة فروق معنوية في بعض نواتج التمثيل الغذائي بالدم مثل الجلوكوز، الجلسريدات الثلاثية،الكرياتينين،(HDL كلستيرون (, أنزيم (AST) و الصوديوم حيث كانت اعلي في مجموعة النظام المغلق مقارنة بالمجموعة التي ترعي طبيعي. كذلك لم تظهر تغيرات كمية او نوعية في توزيع البروتينات بين- المجموعتين في (LDL), بينما اظهر (HDL) زيادة في توزيع البروتينات في مجموعة النظام المغلق. هنالك تركيز- واضح لليبوبروتينات في الانسجة الكبدية في مجموعة النظام المغلق.

كذلك أظهرت الدراسة فروق معنوية في زيادة الوزن حيث كانت اعلي في مجموعة النظام المغلق مقارنة بالمجموعة التي ترعي طبيعي. بينما لم تظهر أي فروق معنوية بين مجموعات النظام المغلق في كل من العلف المتناول، الزيادة الوزنية ومعدل الكفاءة التحويلية خلال فترة التجربة. هنالك زيادة اسبوعية واضحة في الوزن.

أظهرت الدراسة عدم وجود تغيير كمي او نوعي في الدهون البروتينية منخفضة الكثافة(LDL), بينما يوجد هنالك زيادة في التعبير الجيني- للدهون البروتينية عالية الكثافة (HDL).

في مجموعات النظام المغلق وجد ان محتوى الدهون البروتينية في متجانس الكبد أظهر تعبير نوعي.

عند مقارنة الانسجة (الكبد والعضلات) في محتواها من المحفز(ApoB), وجد ان هنالك تركيز عالي لهذا الجين في نسيج الكبد لمجموعات النظام المغلق.

خلصت الدراسة الي ان معاملات التسمين لها تأثير فسيولوجي وبيوكيميائي علي الإبل. كذلك من المفيد جدا تقديم العلائق المركزه لابل الصادر.

