

Eye Muscle Characteristics in Butana Male Camels Fattened at Different Ages in Gadarif State, Sudan

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ABSTRACT

The current study was conducted to report on the appropriate age at fattening and slaughter and the effects of age and improved nutrition on camel performance and carcass characteristics.

Twelve male Butana camels were bought at 2, 3 and 4 years old (four in each age group) and fattened for two month in Gadarif, Gadarif State, Sudan. They were injected against external and internal parasites, weighed and allocated at random to individual pens with feed and water troughs. They were weighed before the morning meal at the beginning of the experiment and then weekly. They were fed sorghum stover *ad lib* in two equal meals at 8.00 am and 4.00 pm and refusals were collected, weighed, sampled and stored for laboratory analysis. Each animal was fed 2.0 kg concentrates daily and clean drinking water was offered. The animals were allowed 2 weeks preliminary period before fattening. At the end of the experiment the animals were fasted overnight, weighed and slaughtered, skinned, eviscerated and body components removed. One carcass side was divided into whole sale cuts and the eye muscle was separated from each animal and weighed, traced, minced, sampled and analyzed. Data was statistically analyzed by analysis of variance for a completely randomized design using SPSS program. The means were compared using least significant difference (LSD).

Eye muscle weight increased with age at fattening and muscle percentages increased with increasing age at fattening to 3 years old and declined at 4 years old. Eye muscle fat decreased with increasing the age at fattening. Eye muscle area and bone decreased with increasing the age at fattening from 2 to 3 years old and increased at 4 years old. All eye muscle characteristics were not significantly ($P \geq 0.05$) affected with age at fattening

Eye muscle weight (kg) was 01.05 ± 0.15 , 01.25 ± 0.05 and 01.30 ± 0.04 at 2, 3 and 4 years old. Eye muscle area (cm) was 87.00 ± 9.00 , 74.50 ± 0.50 and 99.25 ± 6.60 , respectively. Muscle (%) was 56.95 ± 1.39 , 60.26 ± 6.41 and 55.49 ± 4.39 , respectively. Bone (%) was 33.33 ± 6.00 , 31.73 ± 6.73 and 36.65 ± 2.31 , respectively. Fat (%) was 09.72 ± 1.39 , 08.01 ± 0.32 and 07.86 ± 3.15 , respectively.

Eye muscle DM and ash increased from 2 to 3 years old and then declined. Ether extract and CP decreased from 2 to 3 years old and then increased at 4 years old. Age effects on chemical composition were not significant for DM, EE and ash and significant for CP between 2 and 3 years old. Dry Matter (%) was 47.23 ± 2.72 , 50.18 ± 8.45 and 44.01 ± 10.36 at 2, 3 and 4 years old, respectively. Ash (%) was 7.25 ± 1.20 , 10.10 ± 4.10 and 6.95 ± 1.12 , respectively. Crude protein (%) was 19.58 ± 1.97 , $17.34 \pm 1.36a$ and 20.53 ± 0.58 , respectively. Ether extract (%) was 17.91 ± 7.18 , 14.79 ± 2.28 and 19.63 ± 7.47 , respectively.

Keywords: Camel Age, Improved Nutrition, Eye Muscle