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## Effect of Dietary Energy Level on Performance and Carcass Characteristics of Sudan Baggara Heifers

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### Abstract

Forty-eight Baggara heifers were used to study the effects of dietary energy levels of 9.5, 10.5 and 11.5 MJ kg<sup>-1</sup> (a, b and c, respectively) on performance and carcass characteristics. The diets were formulated from sorghum grains, wheat bran, groundnut cake, molasses and groundnut hulls with different proportions. The heifers were divided into three groups of equal number and weight. Each group was further sub-divided into four sub groups. The study site was Kuku Livestock Research Station, Khartoum North, Sudan. The results indicated that daily dry matter intake ranged between 6.14 – 6.8 kg and was significantly affected by dietary energy level. Dry matter intake was significantly ( $p < 0.01$ ) greater for heifers fed diet a. Daily weight gain ranged between 0.58 – 0.73 kg but did not differ significantly and was superior for the heifers fed diet c. While feed conversion ratio was significantly ( $p < 0.01$ ) inferior for heifers fed diet a. The results indicated that the slaughter weight ranged between (225 – 250) kg, while empty body weight ranged between (193 – 213) kg and they were significantly affected by the dietary energy level. Heifers group fed diet a had significantly  $p < 0.05$  lighter slaughter weight and empty body weights. Dressing percentage values were improved by the dietary energy level and heifers fed diet a had consistently the lowest dressing percentage. Dressing percentage of hot carcasses ranged from 52 to 54% when calculated on slaughter weight bases and from 61.3 to 62.4% when calculated on empty body weight bases. The area of the Longissimus dorsi muscle ranged from 48.5 – 65.2 cm<sup>2</sup> and was affected by dietary energy level where, it was significantly ( $p < 0.01$ ) smaller for heifers fed diet a. Back fat thickness ranged from 0.99 – 1.10 cm and was improved by dietary energy level. Heifers fed diet b and c had thicker back fat. Carcass composition indicated that total carcass muscle percentage ranged from 60.6 to 63.5% and was found to be higher for heifers fed diet a. Total carcass fat ranged from 14.2 to 17.6% and was lower for the heifers fed diet a. The results indicated that increasing dietary energy level improved the performance as well as the carcass characteristics and composition of Baggara heifers.

**Keywords:** Baggara heifers, carcass characteristics, dressing percentage