

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

CARCASS TRAITS OF SENEPOL HEIFERS WITH DIVERGENT RESIDUAL WATER INTAKE

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Residual water intake (RWI) is a measure of water efficiency that can be used for selection in beef cattle. Currently, it is not known the association of RWI with carcass traits. Thus, the aim of this study was to evaluate the relation among RWI and ultrasound carcass traits in Senepol cattle. Records on 749 Senepol heifers of approximately 17 months of age, involved in feedlot performance tests, were used. Traits studied included RWI and the following ultrasound carcass traits measured in *longissimus* muscle: ribeye area (REA), fat thickness (FAT) and marbling score (MARB). Individual average daily water intake (ADWI) and weight records were collected over a 70-day period, using electronic water bunks developed by Intergado Ltd. A linear regression model of ADWI on metabolic weight (mean weight^{0.75}) and the average daily gain was fitted. RWI was calculated as the actual ADWI minus that predicted using the regression equation. REA, FAT, and MARB were obtained through carcass ultrasonography at the end of the performance tests. The animals were divided into three groups according to RWI: high (> average RWI plus one standard deviation), medium (average RWI \pm one standard deviation) and low (< average RWI minus one standard deviation). The high and low RWI groups were compared using Tukey's test in relation to their carcass traits. No significant differences ($P > 0.05$) were found between high and low RWI groups for the three studied traits (REA: 69.6 and 69.4 cm², FAT: 8.21 and 8.31 mm and MARB: 3.23 and 3.46 points, respectively). These results suggest that adopting RWI as a selection criterion in Senepol cattle would not cause any influence in carcass traits. Since RWI is a new trait with a small amount of data collected, it is advisable more research on this topic.

Keywords: cattle, beef quality, sustainability, water efficiency

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