INFLUENCE ON CARCASS YIELD AND SUBCUTANEOUS FAT THICKNESS OF NELLORE BULLS BY XARAÉS GRASS GRAZING HEIGHT

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Abstract – The effect of increased grazing heights Brachiaria brizantha cv. Xaraés on carcass yield and fat thickness cover of Nellore was essay. The experiment was lead in Cidade Gaúcha, northwestern Paraná, Brazil South, with 12 paddocks per hectare each. Were evaluated four heights grazing (15, 30, 45 e 60 cm) and the animals were kept during the experiment in paddocks with grazing under continuous variable stocking, initial weight 331±25.39 kg, in a completely randomized design. Carcass yield show linear positive effect (51.73% up to 56.10%, for 15 cm and 60 cm, respectively), and also fat thickness (3.63 mm to 4.90 mm for 15 cm and 60 cm, respectively). The increase of grazing heights of Xaraés grass improved carcass yield and Nellore fat thickness.

I. INTRODUCTION

Cattle industry is one of the main highlights of the Brazilian agribusiness. Brazil has the second largest herd in the world effective, ranging from 188 million to 212 million head depending on the source [1].

The world is aware of the large production capacity and with quality meat; in this respect the country is privileged due to favorable natural conditions, combined with improvements in production [2].

The animals, raised on pasture, are subject to many dietary changes during the year, both quantitatively and qualitatively, resulting in changes in carcass. Currently the meat chain in Brazil and the world has gone through changes, requiring producers to deliver their product with higher quality.

Thus, it is necessary some studies of dietary practices that alter the final product quality, by reducing the age at slaughter, carcass and uniformity of subcutaneous fat [3].

The aim of this study was to evaluate the effect of increased grazing heights of *Brachiaria brizantha* cv. xaraés in carcass yield and subcutaneous fat thickness of Nellore bulls.

II. MATERIALS AND METHODS

The experiment was conducted on a commercial property located in the municipality of Cidade Gaúcha, northwest of Parana, Brazil South. The experimental area, soil known as Sandstone Caiuá considered sandy loam, with soft wavy- and low natural fertility relief, was established by *Brachiaria brizantha*. Xaraés.

The experimental period corresponded to the months of November 2012 to June 2013. Thirty days prior to the beginning of the experiment the 4 desired heights were created. In an area of 12 ha, divided into paddocks of 1.0 ha, smooth-rolling relief, four sward heights (15, 30, 45 and 60 cm) with three replicates each one, were evaluated.

On each paddock three Nellore bulls (*Bos taurus indicus*), with a mean age of 15 months, weighing 331±25.39 kg body weight at the entrance of the experiment, were used. To adjust the stocking rate of the desired heights the put-and-take technique [4] was used.

On the day of slaughter, the animals were weighed after 12 hours of fasting. The carcass yield was calculated by the ratio of carcass weight (immediately after cleaning the carcass) and body live weight of the animals. A digital caliper was used to determine the subcutaneous fat thickness. The measurement was performed between the 12th and 13th rib after 24 hours of slaughter. The measure was taken in three regions of the cross section, and the final result,

expressed in mm of coverage, was the average of the three measurements.

Statistical analysis was performed considering a completely randomized design. The effect of grazing height in carcass yield and subcutaneous fat thickness assessed by analysis of variance and according to the results of the F test in this analysis (P <0.05), procedures for regression analysis were applied.

III. RESULTS AND DISCUSSION

Variables carcass yield and subcutaneous fat thickness were influenced by grazing heights (Fig. 1). The carcass yield showed increasing linear model as a function of height management, where the average yield ranged from 51.73% to 56.10% at the heights of 15 and 60 cm, respectively.

The increase in grazing heights (greater herbage allowance) is related to the increased possibility of selection of material and consequently higher deposition of muscle and adipose tissue, thereby increasing carcass yield.

The greater fat deposition in cattle in pastures at higher heights (60 cm) can be confirmed by observing the increasing linear model for variable subcutaneous fat thickness, which showed variations of 3.63 mm for housed animals in pastures managed to 15 cm and 4.90 mm for the height of 60 cm.

Thus, the fat thickness remained within standards currently established by the Brazilian slaughterhouses (3-6 mm) to reduce losses from dehydration during cooling, which provides greater carcass yield and, consequently, increased production of meat even in swards grazed at lower heights. However, it should be considered over grazed pastures that are more susceptible to degradation and changes in physical characteristics of the soil, which is not wanted in production systems cattle in pastures.

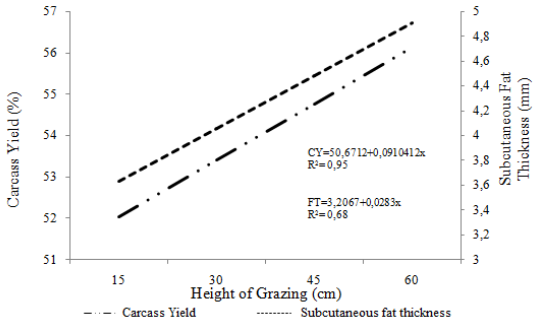

Figure 1: Carcass yield (%) and subcutaneous fat thickness (mm) in Nellore bulls consuming *Brachiaria brizantha cv Xaraés.*

IV. CONCLUSION

Under the conditions of this study, the management of increased heights of xaraés grass, improved carcass yield and fat depth coverage of Nellore bulls.

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