

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## CORRELATION AMONG RATIO OF THE RIB EYE MUSCLE, CARCASS TRAITS AND MEAT TENDERNESS

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The ratio is a measure of the rib eye to determine the muscle format and is a result of the relationship between the rib eye depth and length. The higher this relation is, the more circular the rib eye is. This measure is mainly utilized in North American abattoir systems to distinguish dairy and beef carcass. Recently, some enterprises related beef cattle production chain have associated this measure with carcass yield, meat quality and consumer acceptance of the rib eye cuts, however no scientific data has been published to establish this association. Therefore, the aim of this study was to evaluate the correlation of rib eye ratio measures with carcass traits and meat tenderness. Data from 56 crossbred animals (Nellore crossings with Braford, Charbray and Caracu sires) averaging 24 months and feedlot finished were used in this study. Prior to the slaughter, the animals were weighed (LW), ultrasound scanned, for back fat thickness (BFT, mm), rib eye area (REA, cm<sup>2</sup>), rib eye length (REL, mm), rib eye depth (RED, mm), RATIO (rib eye depth length<sup>-1</sup>) and rump fat thickness (RFT, mm). After slaughter the carcasses were weighed for hot carcass weight (HCW, kg) and yield [CY= (HCW/LW)\*100] determination. Samples of longissimus were collected for shear force evaluations at zero (SF0, kg) and seven days (SF7, kg) of ageing. The correlation among variables were determined by Pearson correlation analysis. Positive correlation of RATIO (P<0.05) were found with RED (0.68 ± 0.03) and SF0 (0.30 ± 0.04). Negative correlation of RATIO (P<0.05) were found with LW (-0.28 ± 0.04), REL (-0.20 ± 0.04) and HCW (-0.26 ± 0.05). The positive correlation of RATIO with SF0 is not favorable, as the SF values are based on kilograms to shear a sample. Therefore, animals with higher RATIO tend to have tougher meat. Negative correlations of RATIO with live and carcass weight indicate that animals with higher RATIO could have smaller body sizes, reflecting in the animal and carcass weight. In conclusion, animals with higher relation of depth to length of the rib eye muscle (RATIO) could be related to smaller animals and tougher meat.

**Keywords:** carcass ultrasound, carcass yield, meat quality, rib eye format

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