

BEEF COLOR OF NELLORE BULLS FROM DIFFERENT RESIDUAL FEED INTAKE CLASSES

COR DA CARNE DE BOVINOS NELORE DE DIFERENTES CLASSES DE CONSUMO ALIMENTAR RESIDUAL

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Color is an important organoleptic trait of beef that directly influences the acceptability of the product by consumers. Color coordinates and pH were measured in *Longissimus* muscle of young Nellore bulls with the objective of identifying associations between residual feed intake (RFI) and meat quality. Twenty-eight Nellore bulls, previously evaluated for RFI, finished in a feedlot until reaching the slaughter weight of 480 kg, were used. After slaughter, the half-carcasses were sent to the cooling chamber, with temperature between 0 and 2 °C, for 24 hours. Initial pH (pre-cooling) was measured in *Longissimus* muscle before the beginning of cooling process, while final pH (after cooling) was measured in the same muscle after 24 hours of chilling. Muscle color coordinates were recorded with a Minolta CR400 Chroma digital meter set to the L*, a*, b* system (where L* measures relative lightness, a* relative redness and b* relative yellowness), illuminant D65, an observer angle of 2°, aperture size of 8.0 mm and a closed cone. The instrument was calibrated against a white plate. A freshly cut surface of the muscle (between 11th and 12th ribs) was exposed to the air at ambient temperature for 30 min prior to color determination. Three measurements were taken, at different positions, across the face of the *Longissimus* muscle and the average value was used for analysis. Data were analyzed using the MIXED procedure of SAS, including as fixed effects diet and selection line. Means were compared by the t-test at 5% probability. No significant differences were detected between RFI classes for any of the studied variables. Mean color coordinates of low and high RFI animals were, respectively, L* 37.15±0.60 and 36.48±0.60 (P = 0.4328), a* 17.41±0.65 and 17.49±0.65 (P = 0.9298), and b* 7.13±0.52 and 7.19±0.52 (P = 0.9390). For the initial pH, means were 7.35±0.15 and 7.36±0.15 (P = 0.9729), and for final pH the means were 5.79±0.09 and 6.01±0.09 (P = 0.1079), respectively, for low and high RFI animals. The results indicate that low and high RFI animals had similar meat quality traits, within the acceptable standards for *Longissimus* muscle. Nellore cattle from different RFI phenotypes have good meat quality traits. It is important to use feed efficiency traits in animal breeding programs.

Keywords: feedlot, feed efficiency, meat quality.

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