

Feeding regimens in finishing phase of beef cattle on corporal development and meat quality

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Despite to be a traditional activity in southern Brazil, beef cattle production based exclusively in natural grasslands normally presents low animal productivity, reflecting a misunderstanding of basic management practices like control of forage allowance and or lack of utilization of others possibilities of foraging. This trial aimed to evaluate the corporal development of steers during finishing phase and some meat characteristics when grazing exclusively in natural grassland or in alternative foraging systems. The survey was conducted in the northeast region of Rio Grande do Sul, Brazil, from July 2014 to May 2015. Seventy-two castrated Angus steers with average age of 18 months were submit to four feeding regimens just to slaughtering: 1) natural grasslands (NG), 2) improved natural grasslands (ING, *Lolium multiflorum* Lam. and *Trifolium repens* L.), 3) cultivated pasture (CP, *Lolium multiflorum* Lam. and *Avena sativa* L.) and, 4) the same of 3) + supplementation with ground corn (0,8% LW day⁻¹). Slaughtering was done at 310, 310, 158 and 158 days for NG, ING, CP and SCP, respectively, after animals reaching fat thickness >2.5 mm, measured by ultrasound. Continuous grazing with variable stocking rate was used to maintain the forage allowance at 12% LW. Treatments were distributed in a completely randomized design with three repetitions. Analyzed variables were: forage mass (FM, Kg ha⁻¹ DM), daily accumulation rate (DAR kg ha DM day⁻¹) and height (H, cm⁻¹), initial and final animal weight (Wi, Wf, kg), rib fat thickness initial and final – 12th and 13th ribs (TFRi, TFRf, mm), biceps fat thickness – *biceps femoris* initial (FTBFi, FTBFf, mm). After slaughter samples from *Longissimus* muscle were drawn for evaluating the texture (TEX) through technique shear force (FCWB, kgf cm²). The results showed that ING treatment presented greater FM (2175 ± 110.59^a) and SCP the lowest (1457 ± 16.43^b) during the evaluation period. However, there was no difference (P>0.05) for the variable DAR, only occurring for H, where CP (10.2 ± 1.1^a) and SCP (17.3 ± 1.5^a) presented greater values. ING animals had higher Wf (477 ± 11.5^a) in relation to the others, but no differences (P>0.05) were found for the Wi, TFRi, TFRf, FTBFi, FTBFf and TEX, demonstrating that food diversification did not change these meat characteristics nor tenderness, even animals being slaughtered at different times. Additionally, different feeding strategies during the finishing phase of the beef cattle, allows the supply of animals for slaughter at different periods of the year.

Keywords: cultivated pasture, forage mass, *Lolium multiflorum*, animal performance, tenderness, supplementation