

**Productive performance and economic of beef heifers from different genetic groups in feedlot**

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Research to evaluate the finishing of heifers in feedlot is still little explored in Brazil. The objective of this study was to evaluate the productive and economic performance of crossbred beef heifers in feedlot finishing fed different sources of non-protein nitrogen (NPN). 552 crossbred beef heifers were used (292 ½ Angus ½ Nellore (A×N) and 260 ½ Charolês ½ Nellore (C×N)), with a mean initial weight of 374.23 ± 55 kg and an age of 24.0 months ± 2 months, distributed in a completely randomized design. The diets evaluated had the same levels of protein and energy, but different sources of NPN. The first diet (LPU) contained livestock urea and protective urea, while the second diet (EU) contained only extruded urea. Weekly samples of the diets and leftovers were collected to determine the composition and calculate the dry matter intake (DMI). Total weight gain (TWG) and average daily gain (ADG) were obtained from weights at the beginning and end of the experimental period. The economic evaluation of the treatments was done by calculating the daily rate and the yield obtained, revenue was calculated based on the weight of the hot carcass and the value of the Kg, and the cost was estimated by the intake multiplied by the value of the Kg. The data were subjected to analysis of variance and Tukey's test at 5%. There was a genetic group effect, with a higher average in the (A×N) compared to the (C×N) heifers, which had intakes of 10.325, 4.09, 1.37, 4.25, and 0.21 for DMI, FDNC, CPC, NFCC, and EEC, compared to the C×N heifers, which had intakes of 9.92, 3.935, 1.315, 4.085, and 0.2 kg/day, respectively, (P<0.001). There was a significant effect of diet on the intake of NDF, NFC and EE, with higher mean values on the LPU diet, 4.5, 4.69, 3.65 kg/day, compared to the EU diet, 3.52, 3.65 and 0.135 kg/day, (P<0.001). The A×N heifers had higher final weight (FW), TWG and DMI (503.41, 128.58 and 1.28, respectively) compared to the C×N (483.26, 110.48, 1.15 kg/day), (P<0.001). For diets, there was only a significant effect for (FW) and (TWG) for LPU (497.77, 124.83) compared to EU (486.90, 114.23 kg), (P<0.01). Revenue was higher for A×N heifers 1,244.30 compared to C×N US\$1,151.63. Daily costs (US\$/day) were higher in the A×N genetic group (3.49 vs. 3.35), and the same behavior was observed in total costs, with a higher value for A×N heifers (307.13 vs. 295.09). The LPU diet had a higher daily cost, 3.525 vs. 3.315, and total cost, 310.53 vs. 291.69. The margin (US\$/animal) was higher for A×N 17.16 heifers compared to 11.49 US\$ for C×N heifers (P<0.001). The A×N heifers had higher productive performance and economic compared to C×N without the effects of sources NPN for economic results.

Keywords: crossbred, diet, non-protein nitrogen, urea, performance, weight.

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