

## Growth performance of feedlot-finished beef cattle from different genetic groups

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In order to achieve better production index, beef cattle producers use new technologies of nutritional and health management beyond genetic improvement. The use of crossbreeding is increasing as well as the number of evaluated genetic groups, so it is very important to evaluate the performance of these different genetic groups, in the same conditions. This study aimed to evaluate the growth performance of feedlot-finished beef cattle from different genetic groups. The experiment was done at Embrapa Southeast Livestock, São Carlos, SP. One hundred-twenty-one animals, 66 males and 55 females, born in 2010, crossbred from Canchim, Braunvieh or Hereford bulls and 1/2 Angus x 1/2 Nellore, 1/2 Senepol x 1/2 Nellore or Nellore cows were evaluated. Animals were kept in paddocks of Mombasa grass, supplemented with 5 kg of corn silage and 1 kg of concentrate with 26.5% crude protein (CP) and 73.0% of total digestible nutrients (TDN), between weaning, at eight months of age, until the end of the dry period and grazing of *Panicum maximum* cv. Mombaça, supplemented with mineral mixture in the rainy season. At the feedlot, animals were fed a diet with 13.1% CP and 71.0% TDN twice a day. Refusals were taken once a day, and samples were collected leftover food provided and the stalls for analysis of dry matter, which was done in a ventilated oven at 55°C for 72 hours. Live weight of animals was obtained each 28 days and before slaughtering. The feedlot period was approx. 86 days and the animals entered the feedlot with an average weight of 353 kg and were slaughtered at four different dates with average live weight of 505 kg. Animals were slaughtered when reached 5 mm of fat thickness estimated by ultrasound measurements. Slaughter live weight (LW), total dry matter intake (TDMI), daily dry matter intake (DMI), total weight gain in feedlot-finished (TWG), daily weight gain in feedlot-finished (DWG) and feed efficiency (FE) were evaluated. The characteristics were analyzed by analysis of variance, with bull breed, cow genetic group and sex as fixed effects and interactions. Interactions among studied effects were not observed as well as bull breed, cow genetic group and sex for LW. Bull breed affected ( $P<0.05$ ) TDMI, DMI, GPTC, DWG and FE. Differences ( $P<0.05$ ) were observed for TWG, where animals from Canchim bulls showed the highest values for TWG ( $161.38 \pm 4.01$  kg), if compared to animals from Hereford bulls, which showed the lowest values,  $140.72 \pm 4.03$  kg for TWG. Cow genetic group effect ( $P<0.05$ ) was observed for DWG and FE. There was no difference for feed efficiency of animals from Nellore cows ( $0.17 \pm 0.004$ ) and 1/2 Senepol + 1/2 Nellore ( $0.17 \pm 0.003$ ), these ones less efficient than those from cows 1/2 Angus + 1/2 Nellore cows crosses ( $0.18 \pm 0.003$ ). The sex showed effect ( $P<0.05$ ) for DMI and FE where males showed the lower DMI ( $10.50 \pm 0.15$  kg) and best FE ( $0.18 \pm 0.003$ ). High weight gains at feedlot can be obtained from Canchim bulls and 1/2 Angus + 1/2 Nellore cows crossbreeding.

**Key words:** beef cattle, crossbreeding, dry matter intake, feed efficiency, selection, weight gain