

EFFICIENCY OF FEED UTILIZATION IN YOUNG NELLORE ANIMALS OF DIFFERENT GENDERS

EFICIÊNCIA NA UTILIZAÇÃO DE ALIMENTOS EM ANIMAIS JOVENS DA RAÇA NELORE DE DIFERENTES GÊNEROS

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In study of more efficient animals for food utilization, it is of great importance to know differences between genders. There are differences between male and female cattle in growing and body composition, mainly those related to the action of sex hormones. This study aimed to evaluate the sex effect on feed efficiency traits in young Nellore animals. Individual feed intake data from eight tests, performed from 2005 to 2012 at Centro APTA Bovinos de Corte-Instituto de Zootecnia-Sertãozinho-SP were utilized. The tests began after weaning, when the animals had, on average, 286 days of age and 229 kg of body weight. The tests duration ranged from 56 to 112 days, depending on the year. Traits analyzed were final body weight (FBW), dry matter intake (DMI), average daily gain (ADG), feed conversion ratio (FCR), feed efficiency ratio (FER), residual feed intake (RFI) and Kleiber ratio (KR). Data were analyzed using the MIXED procedure of SAS. The model included the fixed effect age at the test beginning as linear covariate and the random effects: sex, facilities and year. Least square means were calculated and compared by *t* test. Males had greater FBW than females, what was expected, due to the action of male hormones which benefits the muscle deposition. Greater means of ADG and DMI were also detected for males, when compared to females, because heavier animals have higher gains and consume food according to their body sizes. Among all the feed efficiency measures studied, significant differences between males and females were detected in FCR and KR. Analyzing FCR, females used more food than males for 1 kg of body weight gain, being less efficient. The same was found when KR was analyzed, having males higher KR and being more efficient. No significant differences were detected between males and females for FER and RFI. Young Nellore females are less efficient than males in this growth stage, because of the differences in growth curves due to the sex hormones action.

Table 1. Growth and feed efficiency traits of young Nellore animals from different genders

| Gender | n | FBW (kg) | DMI (kgDM/d) | ADG (kg/d) | FCR (kg DM/kg) | FER (kg/kg DM) | RFI (kg DM/d) | KR (kg/kg) |
|----------|-----|-------------|-----------------|---------------|----------------------|----------------------|------------------|---------------|
| Males | 412 | 335±8.77 | 7.04±0.19 | 1.08±0.06 | 6.57±0.46 | 0.15±0.009 | 0.020±0.026 | 0.016±0.001 |
| Females | 356 | 267±8.74 | 6.12±0.19 | 0.81±0.06 | 7.68±0.46 | 0.13±0.009 | -0.004±0.025 | 0.013±0.001 |
| <i>P</i> | | 0.0017 | 0.0280 | 0.0115 | 0.0182 | 0.1195 | 0.5377 | 0.0303 |

Keywords: feed conversion, feed efficiency, residual feed intake.

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