



## SEX EFFECT ON GROWING AND FEEDING EFFICIENCY IN YOUNG NELLORE BULLS<sup>1</sup>

### EFEITO DE SEXO SOBRE CRESCIMENTO E EFICIÊNCIA DE UTILIZAÇÃO DE ALIMENTOS EM ANIMAIS JOVENS DA RAÇA NELORE

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Several studies have reported differences between male and female cattle in growing and body composition. The differences occur mainly by hormonal factors, however, there is little information about the relationship between sex and feed efficiency traits in beef cattle. The residual feeding intake (RFI) is a feed efficiency measurement and has been an alternative to improve the profit in beef production system. It is defined as the difference between dry matter intake observed and estimated by regression in function of weight gain and metabolic body weight. More efficient animals have the intake observed smaller than the predicted (low RFI), unlike the less efficient ones have the intake bigger than predicted (high RFI). This study aimed to evaluate the sex effect (male and female) on growing and feeding efficiency traits in young Nellore bulls selected for post weaning weight. Data from males and females Nellore animals obtained during RFI evaluation tests were utilized. The tests were performed at Centro APTA Bovinos de Corte - Instituto de Zootecnia - Sertãozinho-SP, between 2005 and 2011. The tests duration ranged from 56 to 112 days, with the adaption period ranging from 28 to 56 days, depending of the year. At the tests beginning the animals had, on average, 286 ± 42 days of age. The traits analyzed were initial body weight (IBW), final body weight (FBW), average daily gain (ADG), dry matter intake (DMI) and RFI. Data were analyzed using the GLM procedure of the SAS program. The model of analyses included the fixed effects of contemporary group (year and selection line), sex (male and female) and age at the beginning of test as linear covariate. Means of growing traits were different between sex (Table 1), being males heavier than females at the beginning (35.28%) and at the end (29.17%) of the test. Males gained 29% more weight than females. Considering DMI, males consumed 21% more food than females. These results showed that males had greater feed conversion, 6.70 kg DM kg<sup>-1</sup> gain X 7.82 kg DM kg<sup>-1</sup> gain. However, no significant differences were detected on RFI between the sex, showing an independent relationship between RFI and sex in beef cattle. Growth traits and feed intake were influenced by sex, however the efficiency of feed utilization, defined as RFI was not influenced by sex in young cattle Nellore.

Key words: *Bos indicus*, efficiency, residual feed intake.

**Table 1. Number of observations, least square means (standard error) and P values for initial body weight (IBW), final body weight (FBW), average daily gain (ADG), dry matter intake (DMI) and residual feeding intake (RFI)**

| Sex    | N   | IBW<br>(kg) | FBW<br>(kg) | ADG<br>(g/day) | DMI<br>(kgMS/day) | RFI<br>(kgMS/day) |
|--------|-----|-------------|-------------|----------------|-------------------|-------------------|
| Male   | 305 | 234.79±2.85 | 311.78±3.12 | 1.00±0.014     | 6.70±0.072        | 0.016±0.038       |
| Female | 304 | 173.55±2.95 | 241.37±3.23 | 0.71±0.015     | 5.55±0.074        | -0.000±0.040      |
| P>F    | --- | <.0001      | <.0001      | <.0001         | <.0001            | 0.6867            |