# INFLUENCE OF REACTIVITY IN RESIDUAL FEED INTAKE CLASSIFICATION IN BEEF CATTLE[1]

*INFLUÊNCIA DA REATIVIDADE NA CLASSIFICAÇÃO DO CONSUMO ALIMENTAR RESIDUAL EM BOVINOS DE CORTE*

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The reactivity is an important behavioral trait that is directly linked to the economic characteristics of beef. Less reactive animals have better performance and efficiency, thus, this study aimed to evaluate the influence of reactivity in the animals´ classification for residual feed intake (RFI). The study was conducted at Centro APTA Bovinos de Corte – Instituto de Zootecnia -Sertãozinho/SP. Sixty males belonging to the Traditional Nelore herd were classified into high (> mean + 0.5 SD, n = 21), medium (±0.5 SD from mean, n = 20) and low RFI (<mean - 0.5 SD, n = 19) . The animals had, on average, 256 kg and 264 days, respectively, for weight and age. They were housed in individual pens for 112 days, being 28 for adaptation to facilities and diet and 84 days for data collection. The diet was composed by Brachiaria hay, corn, cottonseed meal and mineral supplement and was offered to the animals twice a day, with ad libitum access to diet and water. The RFI was calculated as the difference between observed and predicted intake by a multiple regression equation, which considers the average daily gain and metabolic body weight. To measure the temperament, blood samples were collected from the animals´ jugular vein and analyzed to quantify serum levels of cortisol. The composite score (CS) was done by a trained observer, giving scores from 1 to 5 for the general movement of animals during weighing, being the lowest score used for less reactive animals. The experimental design was completely randomized and means were compared by Tukey-Kramer test, using a probability level of 5%. The animals most efficient (low RFI) consumed, on average, 1.02 kg less feed than animals less efficient (high RFI) (Table 1) to obtain the same performance. For cortisol levels and CS no differences were detected between RFI classes. In this study a homogeneous group of animals was used, which received the same management throughout the experimental period, and this fact may well demonstrate that animals of different RFI classes have similar temperament. The temperament does not influence the efficiency of food utilization by the animals.

Key words: cattle, feed intake, temperament, weight gain.

**Table 1**. **Cortisol levels and composite score in animals from different RFI classes**

|  | RFI | | | *P* |
|---|---|---|---|---|
|  | High | Medium | Low |  |
| Cortisol µg dL^{-1} | 3.46a | 3.43a | 3.38a | 0.9829 |
| CS | 1.69a | 1.89a | 1.67a | 0.005 |
| RFI kg/day | 0.44c | -0.01b | -0.47a | <0.001 |
| DMI kg/day | 8.04a | 7.15a | 7.2b | <0.0001 |
| ADG kg/day | 1.29a | 1.24a | 1.27a | 0.7666 |

Means in the same line, with the same letters does not differ significantly by Tukey-Kramer test at 5% probability. *P* = Significance level, CS = Composite score, RFI = Residual feed intake, ADG = Average daily gain, DMI = Dry matter intake