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PÓS GRADUAÇÃO

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RELATIONSHIPS BETWEEN FEEDING BEHAVIOR AND AVERAGE DAILY GAIN IN CATTLE

RELAÇÕES ENTRE COMPORTAMENTO ALIMENTAR E CLASSES DE GANHO MÉDIO DIÁRIO EM BOVINOS

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Several studies have reported relationship between eating behavior and performance in feedlot cattle. The evaluation of behavior traits demands high degree of work and trained manpower, therefore, in recent years has been used an automated feed intake measurement system (GrowSafe System ®), that identify and record individual feeding patterns. The aim of this study was to evaluate the relationship between feeding behavior traits and average daily gain in Nellore calves undergoing feed efficiency test. Date from 85 Nelore males was recorded during the feed efficiency test performed in 2012, at Centro APTA Bovinos de Corte, Instituto de Zootecnia, São Paulo State. Were analyzed the behavioral traits: time at feeder (TF), head down duration (HD), representing the time when the animal is actually eating, frequency of visits (FV) and feed rate (FR) calculated as the amount of dry matter (DM) consumed by time at feeder (g.min^{-1}). The ADG was calculated by linear regression of individual weights on days in test. ADG classes were obtained considering the average ADG and standard deviation (SD) being: high ADG (>mean + 1.0 SD), medium ADG (± 1.0 SD from the mean) and low ADG (<mean - 1.0 SD). Data were analyzed using the PROC MIXED procedure (SAS 9.3). The model included animal and residue as random effects and the fixed effects of ADG class (1, 2 and 3) and age at the middle of test as a covariate. Low gain animals remained 21.8% less time of head down than medium or high gain animals ($P<0.05$). Were observed significant effects of ADG class on FR ($P<0.01$), high ADG animals consumed more feed per time (g.min-1) than the low and medium ADG animals. No diferences were observed ($P>0.05$) among ADG classes for FV, indicating that these traits are not related to each other. These results shows that the ADG is related to the agility in eat food and not to the time spent in the bunk or to the number of visits in a range of 24 hours.

Table 1. Adjusted means, standard deviations and P values for ingestive behavior traits according ADG classes for Nellore calves

Characteristic	ADG			P
	Low	Medium	High	
ADG (kg.dia^{-1})	0.96 ± 0.020	1.21 ± 0.016	1.41 ± 0.019	0.491
TF (min.day^{-1})	206.60 ± 5.32	219.08 ± 4,34	219.01 ± 5.10	0.1427
HD (min.day^{-1})	71.37[a] ± 5.45	91.33[b] ± 4.45	91.36[b] ± 5.23	0.0101
FR (g.min^{-1})	28.73[a] ± 0.85	31.84[b] ± 0.67	34.41[c] ± 0.82	<0.0001
FV (visits.day^{-1})	13.94 ± 0.44	13.41 ± 0.36	13.78 ± 0.42	0.6122

[a, b, c] Within a row and comparison means without a common superscript letter differ ($P<0.05$)

Key words: average daily gain classes, electronic monitoring system, performance.