

NUTRIENT INTAKE AND DIGESTIBILITY FOR NELLORE CATTLE SUBMITTED TO DIFFERENT DIETS

CONSUMO E DIGESTIBILIDADE DE NUTRIENTES POR BOVINOS NELORE SUBMETIDOS A DIFERENTES MANEJOS NUTRICIONAIS

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The main factor that affects performance and animal efficiency is the feed intake. This trait is important for diets formulation, animal performance prediction, and planning and controlling yield systems. In addition, estimating digestibility values is essential to determine nutritional value of feed. The objective of this study was to evaluate feed intake and nutrient digestibility of beef cattle. The tests were performed at Centro APTA Bovinos de Corte – Instituto de Zootecnia - Sertãozinho-SP, on 2012 and 2013, with 95 Nelore animals. Forty-seven animals (25 heifers and 22 young bulls) were kept on Marandu grass (*Urochloa brizantha*) paddocks in the dry season for 46 days. The forage's NDF content on this period was 56.71% and 14.63% of CP. Forty-eight animals (24 heifers and 24 young bulls) were kept on feedlot system receiving a diet containing corn silage, grass hay, ground corn, soybean meal with a NDF content of 50.18% and a CP content of 13.98% for 70 days. After the feedlot period, the 48 animals that were in the pens were allocated on Marandu grass (*Urochloa brizantha*) paddocks in the rainy season for 46 days, when the NDF content of the forage was 65.09% and the CP was 9.02%. Data were analyzed using PROC MIXED in SAS 9.2, the mixed model analysis included the fixed effects of sex and diet and the linear effect of covariate weight and the lsmeans were compared by F test, using 5% of significance level. Total dry matter, insoluble NDF, non-fibrous carbohydrate, CP and total TDN intakes were higher for the animals kept on feedlot system ($P < 0.05$) when compared to the other treatments (Table 1). The lower NDF content of diet allowed higher intake due to the rumen fill decrease. CP, dry matter, insoluble NDF and energy digestibility coefficients were higher for the pasture system on dry season when compared to the rainy season, reflecting, partially, the animal intake selectivity. Levels of intake were higher in feedlot animals, however digestibility levels were lower for the same animals, what can be explained by the greater passage rate. Nutrients intake and digestibility of beef cattle can be partially explained by diet quality and consumption selectivity.

Table 1. Means and standard errors of intake and nutrients total apparent digestibility for Nelore animals under different diets

Variables	Diets			
	Dry Season	Feedlot	Rainy Season	P
TDMI (kg.day ⁻¹)	7.53 ± 0.32 ^b	9.57 ± 0.29 ^a	6.98 ± 0.27 ^b	<0.0001
NDFI (kg.day ⁻¹)	4.06 ± 0.18 ^b	4.89 ± 0.16 ^a	4.18 ± 0.15 ^b	0.0015
NFCI (kg.day ⁻¹)	1.56 ± 0.07 ^b	3.14 ± 0.06 ^a	1.40 ± 0.06 ^b	<0.0001
CPI (kg.day ⁻¹)	1.27 ± 0.05 ^a	1.33 ± 0.04 ^a	0.99 ± 0.04 ^b	<0.0001
TDNI (kg.day ⁻¹)	5.02 ± 0.23 ^b	6.71 ± 0.20 ^a	4.81 ± 0.19 ^b	<0.0001
CPD (%)	88.17 ± 0.74 ^a	52.87 ± 0.66 ^b	83.26 ± 0.62 ^b	<0.0001
DMD (%)	50.53 ± 0.99 ^b	60.16 ± 0.88 ^a	41.15 ± 0.83 ^c	<0.0001
NDFD (%)	63.47 ± 0.82 ^a	56.58 ± 0.73 ^b	65.02 ± 0.69 ^a	<0.0001

In the rows, means followed by different letters differ from each other. TDMI (total dry matter intake), NDFI (insoluble NDF intake), NFCI (non-fibrous carbohydrate intake), CPI (CP intake), TDNI (TDN intake), CPD (CP digestibility), DMD (dry matter digestibility), NDFD (insoluble NDF digestibility).

Keywords: diet, feedlot, pasture.

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