Concentrate with Different Protein Sources for Sheep Grazing Tifton 85 Pasture

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Key words: *Cynodon dactylon*, soybean meal, supplementation, tropical pasture, urea

Introduction Tropical pastures are insufficient to supply the quality and quantity of nutrients required for animals of high genetic worth. Concentrate supplementation is often required to satisfy this nutritional requirements. However, concentrates can increase the costs in the animal production systems. This paper studied the use of different protein sources to investigate the opportunities to reduce ration cost.

Materials and methods Twenty-eight sheep were assigned to one of four feeding practices which compared three sources of protein in concentrate for sheep grazing Tifton 85 (*Cynodon dactylon*) with a control. The treatments were: T1-urea, T2-soybean meal and T3-cottonseed meal and control" T4-without supplementation, only pasture. The animals received 0.2 kg/day of isoproteic and isoenergetic concentrate with 18% of crude protein and 72% total digestible nutrients according to NRC (2007). The experimental design was completely random with seven replications. The results were analysed using the SAS (1999) statistical package, and were compared using the Tukey Test.

Results There were no statistical differences ($P>0.05$) between treatments for initial and final live weight, average daily gain, total weight gain, initial and final body condition score and carcass weight.

Table 1 *Performance, body condition score and carcass characteristics of sheep grazing Tifton 85 and receiving different sources of protein in the concentrate.*

Components	Treatments					
	T1	T2	T3	T4	SE	P
Initial live weight (kg)	28.56	28.30	28.17	28.30	1.09	0.99
Final live weight (kg)	33.57	36.67	36.12	35.60	1.31	0.38
Initial body condition score (points)	2.67	2.67	2.50	2.67	0.09	0.43
Final body condition score (points)	3.17	3.11	2.82	3.00	0.09	0.57
Average daily gain (kg/d)	0.060	0.100	0.095	0.087	0.015	0.27
Total weight gain (kg)	5.01	8.37	7.96	7.30	1.27	0.27
Body condition score change (points/d)	0.006	0.005	0.004	0.004	0.001	0.40
Total body condition score change (points)	0.50	0.43	0.32	0.32	0.87	0.40
Carcass weight (kg)	14.42	15.86	15.86	14.86	0.57	0.21
Cold carcass yield (% of live weight)	43.30	43.73	44.64	41.94	2.67	0.91

T1=urea; T2=soybean meal; T3=cottonseed meal; T4=without supplementation; SE=Standard error; P=probability.

Conclusions The four feeding practices had a similar performance. In this situation, the exclusively use of Tifton pasture was the best economical choice.

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