
BEHAVIOR OF SHEEP IN INGESTIVE CREATION SYSTEM SEMI-INTENSIVE

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Recebido em: 2015.06.03**Aprovado em:** 2015-12-17**ISSUE DOI:** 10.3738/1982.2278.1494

SUMMARY: The purpose of this study was to evaluate the feeding behavior of sheep Santa Ines in semi-intensive farming system, fed concentrated and bulky. The experiment was conducted at Fazenda entanglement Latitude, 4th 45'15. 50' '5 S, Longitude 440° 00' 54 85" The Cajazeiras in district 45 km from the city of Codó - MA. 12 aged male sheep were used at the beginning of the experiment between 4-5 months and at the end with 5-6, which were previously weighed and wormed (Allpar), divided into pasture and housed in open shed, covered with ceramic tiles and concrete floor with individual stalls of 12.00 m² each, equipped with feeder and drinker. The mass bit and bit rate was no significant difference between treatments, and the supplementation showed a higher average ($p < 0.05$) and the time of idling time was not significantly different between treatments with Mombasa grass grazing (*Panicum maximum* cv.) and supplementation nor the treatments with supplementation and napier grass (*Pennisetum purpureum*) chopped, but among grazing treatments Mombasa grass and chopped napier grass and animals subjected to supplementation showed better results in the mass parameters bit and bit rate, under different types of power modifying their feeding behavior according to their nutritional needs and thus presenting better weight gain.

Keywords: Feed concentrates. Forages. Sheep. System creation.

COMPORTAMENTO INGESTIVO DE OVINOS EM SISTEMA DE CRIAÇÃO SEMI-INTENSIVO

RESUMO: O objetivo deste trabalho foi avaliar o comportamento ingestivo de ovinos da raça Santa Inês em sistema de criação semi-intensivo, alimentados com concentrados e volumosos. O experimento foi desenvolvido na Fazenda Cipoal Latitude, 4° 45' 15. 50'' 5S, Longitude 44° 00' 54. 85'' O no distrito de Cajazeiras a 45 km da cidade de Codó - MA. Foram utilizados 12 ovinos machos com idade no início do experimento entre 4 a 5 meses e no final com 5 a 6, os quais foram previamente pesados e vermifugados (ALLPAR), distribuídos em pasto e alojados em galpão aberto, coberto com telhas de cerâmica e piso de concreto, com baias individuais de 12,00 m² cada uma, providas de comedouro e bebedouro. Na massa de bocado e taxa de bocado houve diferença significativa entre os tratamentos, sendo que a suplementação apresentou uma maior média ($p < 0,05$) e o tempo de ruminação e ócio não apresentou diferença significativa entre os tratamentos com pastejo de capim mombaça (*Panicum maximum* cv.) e suplementação e nem nos tratamentos com suplementação e capim napier (*pennisetum purpureum*) picado, e sim entre os tratamentos de pastejo com capim mombaça e capim napier picado e os animais submetidos a suplementação apresentaram melhores resultados nos parâmetros de massa do bocado e na taxa do bocado, submetidos a diferentes tipos de alimentação modificando seu comportamento ingestivo de acordo com a sua necessidade nutricional e, assim, apresentando melhor ganho de peso.

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Palavras-chave: Alimentos concentrados. Alimentos volumosos. Ovinos. Sistema de criação.

INTRODUCTION

World production of sheep meat is approximately 13.8 million tons/year by checking in the last decade an annual increase of 1.9% in exports (FAO, 2007). In Brazil, the Northeast, South and Southeast are highlighted by increased production of sheep meat, from the use of industrial crossings to better results in the production system with specialized breeds, but there is need for improvement in the nutritional management.

Seeking greater production and yield per animal, there needs to be a good combination of the factors that influence directly in this regard. Such combination refers to genetics, is directly related to the management of these power capable of providing the necessary nutrients to the animal development, as well as the production capacity, to result in productive responses both quantitative and qualitative.

The intensification of farming systems promotes increase in production rates, and guarantee consumers quality products. Specifically in relation to the sheep industry should be improvements related to health, nutrition, reproductive management, facilities and management company, if necessary, however, to determine the most appropriate parameters for each case (OSORIO et al., 1981).

The confinement allows the applicability of these improvements, favoring the intensification of production, with an applicable technology, favoring studies that seek alternatives focused on reducing costs, higher productivity, raising thus the interests of sheep farmers.

The forage intake is critical for the animal to exercise more effectively its production capacity, due to their relationship with existing microorganisms in the rumen, which are capable of degrading plant cell wall, making the food eaten in essential components their maintenance and production.

It is noteworthy that the herbage allowance affects animal performance, since it is associated to the possibility of diet selection in both grazed species such as the portion of plant consumed, and thus can consume a higher quality food, higher than the average available. In this sense, the animal grazing benefits while promoting the heterogeneity of pastoral environment, reaching create structures mosaics with high and low plants, depending on the employed grazing pressure by checking the carrying capacity of the area (CARVALHO et al., 2001).

Considering the factors that influence the feeding behavior, related to animals, plants, the environment and the management, the study of grazing behavior seems to have great prospects for use, as generally do not require expensive and sophisticated equipment and do not depend on complex laboratory tests, can be used as an alternative method to estimate forage intake (CHACON et al., 1978), helps in understanding how animals adjust this behavior as a function of the variations observed in the pasture and the environment. As ERLINGER et al. (1990) provides further define the characteristics of animals and turf that influence consumption and provides information on the causal relationships between forage and animal control both response.

This study aimed to evaluate the feeding behavior in semi-intensive creation of Santa Ines breed sheep system, fed feeder with cassava, maize, leucena, chopped napier grass and Mombasa grass pasture.

MATERIAL AND METHODS

Was developed in entanglement Latitude farm, 4th 45 '15. 50' '5 S, Longitude 440 ° 00' 54 85 " Paragraph Cajazeiras district located 45 km from the city of Codó - MA. 12 male sheep Santa Ines were used, with age at the beginning of the experiment four to five months and at the end with five to six, which were previously weighed and wormed (Allpar), with initial average live weight in the group a " "24.81 kg and 28.80 kg and end with the group" two ", with body weight (BW) in initial average of 23.01 kg and final weight 24.24 kg.

The animals were distributed on pasture at first, and then housed in open shed, and the sheds covered with ceramic tiles and concrete floor, housed in individual stalls of 12.00 m² each, equipped with feeder and drinker for bulky and concentrated feed.

Bulky consisted of Mombasa grass (*Panicum maximum* cv), which was in paddock (1.5ha) and napier grass (*Pennisetum purpureum*) chopped and supplied in feeder (6 kg/day) with plenty of 2,58kg/morning. The supplementation consisted pollard corn (1750 g/animal/day), cassava meal (2.200 g/animal/day) and leucaena (*Leucaena* spp) and provided in accordance with the nutritional requirement of sheep (NRC, 2007).

The animals were weaned at age three to four months and were identified with spaghetti collars with different colors. Everminados were, weighed and separated into two groups of six animals each. Each group was placed in a bay where we evaluated the feeding behavior every seven days for six weeks.

The animals were submitted to semi-intensive system where grazed 10 to the 17 hours mombaça. Some of the groups received supplemental corn, cassava and leucena after returning

from grazing while the other received only the same period, napier grass to supplement the feeder.

Data were analyzed by ANOVA, by PROC GLM, SAS by logiciário (2000), and comparison tests were made of average SNK, $p < 0.05$ probability.

RESULTS AND DISCUSSION

Concentrates must always be stored and well maintained, should be provided according to the nutritional requirement of the sheep, and the massive must be at a suitable height for easy consumption and thus feeding behavior can be used to evaluate the consumption of concentrate to forage in their food handling conditions.

The animals subjected to different types of food change their feeding behavior according to their nutritional needs, thus changing the parameters of the bit size, bit rate and rumination and idleness that are related to the characteristics of the food (concentrated and bulky). The results obtained for feeding behavior of sheep in semi-intensive nutritional management system are shown in (Table 1).

Table 1. Feeding behavior of Santa Inês sheep, subjected to three types of nutritional managements. Grazing on grass Mombasa, Supplementary Feeding and Napier grass in confinement.

ITEMS	MB* (g)	TB* (nº. de pieces / min.)	TRUM* (min.)
Grazing Mombasa	1,15 ^b	31,66 ^b	9,48 ^a
Supplement	4,20 ^a	65,16 ^a	7,49 ^{ab}
Napier Picado	1,68 ^b	26,50 ^b	5,91 ^b

1. Supplementary feed consisting of corn Ralão, cassava and Leucaena. 2. Means followed by the same letter in the same column do not differ statistically according to the SNK test at 5% probability. * MB-Mass bit; TB - bit rate; TRUM - rumination and idleness.

It is noted that the piece of dough there is a significant difference between treatments whereas supplementation showed a higher mean ($p < 0.05$) demonstrating that the animal consumed more than the concentrate fed bulky. In assessing the feeding behavior of the two groups together in Mombasa grass pasture where it offered green matter enough for everyday consumption, returning to the stable, the group that received supplementation gained more weight than the group that received chopped napier grass at the feeder and had no significant difference between the treatment of Mombasa grazing and chopped napier grass.

To set the bit size is necessary that the volume density of the grazed layer has a direct influence on the animal consumption. It is observed that the bit rate there is a significant difference between treatments in Mombasa grass grazing and chopped napier grass, and the group that received supplementation showed a higher average ($p < 0.05$), showing that the animal has consumed much more than the concentrate fed roughage and the result can be seen in Table 1, which compares the bit number per minute, and they also had better weight gain at the end of the experiment (CANDID, 2008).

When observing the results by group, one should take into consideration that the three treatments only the group "one" did not receive massive all the time and therefore this group will present better results in weight gain than the other groups. Second (HODGSON, 1990), grazing time can influence the reduced consumption because of the ingestion rate which can be compensated in increased bit rate.

According to HODGSON et al. (1994) the number of bit per minute is affected to pasture, by the height of the sward, the volumetric density of the layer, the reduction of green leaves and the quality of food provided. To UNGAR (1996) when it reduces the bit size consequently to an increase in bit rate by the number of jaw movements, because this decrease and if it happens one animal food restriction decreases the bit rate, to maintain the same pace chewing food (forage and concentrate).

According to ZANINE et al. (2006) reports that the feeding behavior of animals in pasture, depending on the type of forage, there will be a difference in the bit rate per minute, just because depending on the grazing time the animal had begun to be more selective in the choice of forage, where the choice depends on the size of the sward and the quality of that forage.

It is observed in Table 1 that the rumination and idleness does not present a significant difference between treatments in Mombasa grass grazing and supplementation nor the treatments with supplementation and chopped napier grass, but among grazing treatments Mombasa grass and napier grass chopped, and the group that received chopped napier grass in the manger had a better average ($p < 0.05$) demonstrating better food utilization provided "voluminous".

As (SARMENTO, 2003; TREVISAN et al., 2004; Zanine et al., 2006), rumination and idle time is a mechanism or strategy that the animal adopts to meet their nutritional requirements and may vary according to the characteristics of food, where the animal begins to select the stations feeds and thus the parameters can be changed, bit weight, bit rate and grazing time. The results obtained for feeding behavior of sheep in semi-intensive nutritional management system for weight gain are shown (Table 2).

Table 2. Breed sheep weight gain St. Agnes subjected to confinement in a food handling containing Supplemento1 and chopped Napier grass.

ITEMS	WEIGHT GAIN (g)
Supplement	3,73 ^a
Napier grass Picado	2,02 ^b

1. Supplementary feed consisting of corn Ralão, cassava and Leucaena. 2. Means followed by the same letter in the same column do not differ statistically according to the SNK test at 5% probability.

It is observed that the animals that received supplementation (Ralão corn, cassava and Leucaena) showed a significant difference in weight gain at the end of the experiment average (28.80 kg/PV) showing thus a better use of food due We have received two types of food offered (Mombasa and supplementation grass).

CONCLUSIONS

The animals submitted to supplementation showed better results in bit of mass parameters and bit rate, and the rumination time and idle the group undergoing chopped napier grass feed showed a lower result.

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