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Feeding Behaviour of Sheep Fed With Cultivated Fodders Under Intensive System

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Abstract

Experiment was carried out at Instructional Livestock Farm complex, Veterinary college and Research Institute, Namakkal, Tamil Nadu during 2015-2016 and with the aim to study the feeding behaviour of sheep fed with cultivated hybrid napier and multicut fodder sorghum at different stage of cuttings under intensive system. Intensity of eagerness towards the green fodders and bouts length, duration and frequency were studied. The intensity of eagerness towards the fodder was highest in CO(BN)5 group followed by CO(CN)4 and COFS29 at 60th and 75th days of cuttings. The number of bites per min was highest in CO(BN)5 group whereas the bout time (min) and frequency of bite was highest in CO(CN)4 group and lowest in COFS29 group.

Key words: Mecheri sheep, Feeding behaviour, Different fodders

Introduction

Sheep are generally reared under extensive condition in the Asian countries, but a gradual shift from extensive to intensive production system is taking place mainly for pasture land available is shrinking owing to the increasing land use for other agricultural and non-agricultural activities. A basic understanding of sheep behaviour will make raising and handling sheep less stressful for both the sheep and shepherd. Increasing forage in the diet of ruminants offers a way to lower production costs while at the same time meeting social demand for environmental protection and welfare. Plant structure determines the accessibility and size of plant organs, hence influencing the two central components of instantaneous intake rate, bite mass and bite frequency (Spalinger and Hobbs, 1992). Under intensive farming bulk dry matter requirement is mainly met from the feeding of cultivated grass or cereal fodders. In Tamil Nadu, recent hybrid Bajra Napier varieties released by TNAU Viz., CO(CN)4 and CO(BN)5 and fodder sorghum variety COFS29 are widely cultivated by many farmers. Hence the study was undertaken to assess, how forage characteristics influence feeding behaviour as intake rate, eating time and choices under intensive system.

Materials and Methods

Experiment was carried out at Instructional Livestock Farm Complex, Veterinary College and Research Institute, Namakkal from November 2015 to March 2016 with 24 Mecheri lambs ,divided

into three groups consisting of 8 animals in each group fed with CO(CN)4, CO(BN)5 and COFS29 respectively, *ad libidum* manner in the morning. The intensity of eagerness towards the three fodders and bout rate, duration and frequency of bout was measured by using stop watch.

$$\text{Bite rate (bites/min)} = \frac{\text{Number of Bite}}{\text{Time spent in biting (sec)}} \times 60$$

Bout duration: Defined as uninterrupted period of ≥1 min during which time an animal was engaged in one activity. Any interruption lasting <1 min within a bout was ignored.

Frequency: The number of bout and inter-bout events recorded. The data recorded were analysed statistically as per Snedecor and Cochran (1996).

Results and Discussion

Results presented in table 1 indicated that intensity of eagerness towards the different green fodders were gradually decreased as the cutting interval increased in all three groups but the CO(BN)5 group had higher eagerness towards the fodders whereas the intensity of eagerness was lower in COFS29 group. The reason might be due to increased fibre content and low digestibility of fodders as the age advances. This concurs with Sodeinde *et al,*(2006) who reported that most tropical

Table 1. Intensity of eagerness towards the different green fodders (Average number of animals)

Stage of cuttings	Time	Treatment		
		CO(CN)4 (T_1)	CO(BN)5 (T_2)	COFS29 (T_3)
60th day	<2 min	6.5	7.2	5.1
	2-5 min	1.4	0.714	2.14
	>5 min	-	-	0.714
75th day	<2 min	6	6.5	4.2
	2-5 min	2	1.2	2.2
	>5 min	-	-	1.2

Table 2. Feeding behaviour of Mecheri lambs fed with different green fodders under intensive system

Parameter	Treatment		
	CO(CN)4 (T_1)	CO(BN)5 (T_2)	COFS29 (T_3)
Number of bouts/min	51.50	53.35	46.30
Duration of bout (min)	23.20	20.10	16.01

Table 3. Influence of green fodders on water intake of Mecheri lambs under intensive system (Average number of animals)

Time	Treatment		
	CO(CN)4 (T_1)	CO(BN)5 (T_2)	COFS29 (T_3)
0-15 min	1.28	1.42	2.40
15-30 min	2.01	1.14	3.85
30-45 min	0.28	-	0.14
45-60 min	-	-	-

grasses at about 8 weeks of age are highly digestible leads to higher intake and had an optimum utility after which there is a decline in the level of utilization.

The number of bouts were higher in CO(BN)5 group (53.35/min) followed by CO(CN)4 (51.5/min) and COFS29 (46.3/min) (Table 2). But, the duration of bout (min) was more in CO(CN)4 group and lowest in COFS29 group. High moisture (81 to 83 %) content leads to succulence of CO(BN)5 and CO(CN)4 fodders, it increased the palatability relished by Mecheri lambs. Lowest bite rate in COFS29 group might be due to high fibre content of fodders leads to longer chewing activity and rumination time. Approximately similar value (46.5 to 50.14 bites) was reported by Chen *et al. (2013*) whereas Galli *et al.* (2011) reported mean lower bite rate of (22 to 23/min) in grazing sheep. Increased bite rate might be due to feeding of chopped green fodders to the lambs under intensive system. Lambs maintained in COFS29 group showed higher searching for drinking water, while animals maintained in CO(CN)4 showed less demand of water (Table 3). According to Pompeu *et al.* (2009) animals maintained in marandu-grass showed higher searching for drinking water, while animals maintained in aruana-grass showed less demand for water.

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Conflict of Interest: All authors declare no conflict of interest.

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