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Effect of feeding concentrate mixture based pellet versus concentrate mixture on dry matter intake and water intake of goats

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Abstract

Eighteen growing goats were selected on the basis of nearby to body weight of each group. The goats were divided into 3 groups. T₁- Dry Roughages *Ad lib*+ 2Kg Green Fodder+ Concentrate Mixture (Without Pellet), T₂-Dry Roughages *Ad lib*+ 2Kg Green Fodder+ (50% Concentrate Mixture Based Pellets + 50% Concentrate Mixture), T₃ - Dry Roughages *Ad lib*+ 2Kg Green Fodder + Concentrate Mixture Based Pellet. The mean daily dry matter intake values of the treatment T₁, T₂ and T₃ were 1.10, 1.16 and 1.12 kg respectively. The value of daily dry matter intake per 100 kg body weight of the treatment groups T₁, T₂, and T₃ were 3.97, 3.98 and 3.97 kg respectively. It was observed that average water intake over an experimental period was 2.56, 2.83, and 2.58 liter/day/goat in treatment groups T₁, T₂ and T₃ respectively.

Keywords: Dry matter, roughages, concentrate, pellets

Introduction

Growth is fundamental and common feature of all living beings. Every animal is endowed at birth with certain capacity for growth and production. Most of the small-farm holders in South east Asia are mainly crop-oriented subsistence farms. Goats are typically fed on locally available resources, which are characterized by low quality and highly variable availability. These constraints can be overcome through processing techniques such as sun drying and pelleting to ensure year-round feed supply. Pelleting offers particular advantages. Feeding animal with pellets provides better feed efficiency, greater starch digestibility, less feed waste, non-selective feeding, better handling and storage and increase income due to more efficient feeding and higher productivity. The aim of this study would to develop pelletized based rations for goats and evaluate them for their technical and financial viability.

Methodology**Selection of Experimental goats**

Eighteen growing goats were selected on the basis of nearby to body weight of each group. The goats were divided into 3 groups. Thus each group was consisted of 6 goats for the study.

Feeding Treatment.

T₁- Dry Roughages *Ad lib*+ 2Kg Green Fodder+ Concentrate Mixture (Without Pellet)

T₂- Dry Roughages *Ad lib*+ 2Kg Green Fodder+ (50% Concentrate Mixture Based Pellets + 50% Concentrate Mixture)

T₃ - Dry Roughages *Ad lib*+ 2Kg Green Fodder + Concentrate Mixture Based Pellet.

Result and Discussion**Chemical composition**

Chemical composition of feed stuff used in experiment period for feeding the goats is tabulated. It was observed from table 1 that the per cent DM, CP, CF, EE, NFE and Ash from concentrate mixture were 89.20, 19.65, 6.10, 6.55, 60.12, 7.58 per cent respectively. The per cent DM, CP, CF, EE, NFE and Ash content in Concentrate mixture based Pellet were 88.15, 19.71, 6.09, 6.53, 59.28 and 7.59 per cent respectively. Also the per cent DM, CP, CF, EE, NFE and Ash content in Lucern green 26.73, 22.54, 24.34, 2.62, 39.43 and 9.65 per cent respectively. The per cent DM, CP, CF, EE, NFE and Ash content in jowar straw were

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90.00, 2.74, 34.88, 2.18, 48.85 and 11.35 per cent respectively. The majority of past research workers like, Reddy and Reddy. (1984) reported similarly, Rajmane and Deshmukh (2000) [5], made an attempt to study the chemical

composition of certain concentrate pellet and the result obtained in the present investigation in respect of composition of Concentrate mixture based Pellet was similar with these observation.

Table 1: Chemical composition of experimental feeds fed to goats (per cent on DM basis)

Sr. No	Attributes	Concentrate Mixture	Concentrate mixture based pellet	Roughages	
				Lucern green	Jowar straw
1	DM	89.20	88.15	26.73	90.00
2	CP	19.65	19.71	22.54	2.74
3	CF	6.10	6.09	24.34	34.88
4	EE	6.55	6.53	2.62	2.18
5	NFE	60.12	59.28	39.43	48.85
6	Ash	7.58	7.59	9.65	11.35

Dry Matter Intake

The mean daily dry matter intake in goats in three different treatments is presented in Table 2. The values of dry matter intake of the treatment T₁, T₂ and T₃ were 1.10, 1.16 and 1.12 kg respectively. The value of daily dry matter intake per 100

kg body weight of the treatment groups T₁, T₂, and T₃ were 3.97, 3.98 and 3.97 kg respectively. The dry matter intake was noticed more in T₂ followed by T₃ and T₁. It indicates the influence of incorporation of the experimental goats.

Table 2: Mean daily dry matter intake by experimental animals on different treatments

Treatment	Avg. body wt. (kg)	DM intake (kg/day)	DM intake per100 kg body wt.
T ₁	27.70	1.10	3.97
T ₂	29.19	1.16	3.98
T ₃	28.14	1.12	3.97
F test	NS	NS	NS
SE (m)±	2.00	0.079	0.004

The past worker like, Coppock *et al.* (1975) [1] and Zod (1997) [5], reported the DM intake in the range from 2.42 to 3.60/100 kg body weight on feeding of Concentrate mixture based

pellet alone or in combination with other green fodder in ruminants like cattle, sheep, and goat.

Water Intake

Table 3: Mean water intake in experimental goats under different treatment (Liter.)

Treatment	Water intake Day (Liter)	Water intake (lit/100 kg BW)
T ₁	2.56	10.64
T ₂	2.83	11.61
T ₃	2.58	10.82
F test	NS	NS
SE (M)±	0.22	0.31

It was observed from table 3 that average water intake over an experimental period was 2.56, 2.83, and 2.58 liter/day/goat in treatment groups T₁, T₂ and T₃ respectively. The corresponding value for water intake per 100 kg body weight were 10.64, 11.61 and 10.82 lit respectively in treatment groups T₁, T₂ and T₃. The differences in water intake were statistically significant and water intake per body weight was also found to be significant. The water was increased gradually among treatment groups under successive period of difference in water intake when goats were supplemented with Concentrate mixture. The above findings were in coordination with the finding of Pailan and Singhal (2000) [2] noticed that dietary sources of protein did not affect the water metabolism in lactating goats.

- Pailan GH, Singhal KK. Effect of dietary protein sources on water metabolism in lactating goats. *Indian J. Anim. Nutr.* 2000; 17(1):52-55.
- Rajmane SM, Deshmukh SV. Nutritional evaluation of Complete ration in goats. *Indian J Anim. Nutr.* 2000; 17(3):246-248.
- Reddy GVN, Reddy MR. Dry fallen mango leaves as roughage source in the complete feeds for sheep. *Indian J Anim. Sci.* 1984; 54:1046.
- Zod PD. Nutritional evaluation of Anjan tree (*Hardwickia binata* Roxb.) leaves in goats. M.V.Sc. Thesis submitted to Dr. PDKV, Akola, 1997.

References

- Coppock CF, Noller CH, Wolfe SA. Effect of forage concentrate ratio in complete feeds fed ad libitum on fed intake prepartum and the occurrence of abomasal displacement in dairy cows. 1975; 55:783-789.