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HAEMATOLOGICAL PICTURE OF TEDDY GOATS AS AFFECTED BY ATRIPLEX FEEDING

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Twenty five Teddy goats were involved to see their haematological picture by five different feeding regimes of Sudex and Atriplex alone and with their different porportions randomly allocated to them for a period of 90 days. Blood samples were collected after four weeks of the start of the experiment and thereafter four weeks interval respectively. The results showed that mean values for haemoglobin, erythrocyte count and packed cell volume (peV) were found non-significant statistically compared to control.' Similar was the case with differential leucocyte count (DLe), neutrophils, lymphocytes and rnonocytes mean values. However the values of eosinophils showed significant differences on Sudex fed alone (ration I) goats than the mean values for the same parameters recorded on the other four feeding regimes (P> 0.05) but non-significant differences between the values on others feeding regimes (11, Ill, IV, and V). The values for basophils were found to be zero in all animals raised on different rations or feeding regimes.

INTRODUCTION

Goats hold an important position in animal production systems especially at small farms in the developing countries like Pakistan. This is quite evident due to their multifarious functions like meat, milk, manure production for enhancing the soil fertility etc. Among these meat production is the most important one. Presently, Pakistan is supporting about 27.7 million sheep and 40.2 million goats. (Anonymous 1992-93), in which goat alone is contributing 25 % towards the total meat production of the country (Ahmad and Alvi, 1988). This can be further increased by improving the feed situation of animals bearing potential for this purpose like Teddy goats. All this can be accomplished for maximum meat production from these animals through the proper and judicious use of saline and water logged soils of the country apart from different range areas. Such types of lands are of only use for small ruminants production by growing there salt tolerant plants like Atriplex (commonly named as salt bush) with its numerous species and later on its feeding to these animals. The present study was therefore planned to determine the potential of Atriplex species *Atriplex amnicola* as a forage plant compared with the conventional one like Sudex to see their effect on the haernatological picture of Teddy goats.

MATERIALS AND METHODS

The study involved twenty five Teddy goats of almost the same weight and age (about a year) . These animals were put on five different feeding regimes (five on each), alloted to them at random. Animals were fed weighed quantity of Sudex and *Atriplex amnicola* and in three different mix ratios *ad*

different (P< 0.01) due to varying levels of Sudex and Atriplex alone and their combinations. Values in regime I were significantly higher over the other four rations, where as the differences among animals maintained on ration 11, Ill, and V were statistically non-significant from each other. Values obtained on feeding regime IV were lowest (7.20 mm) and were significantly different from ration III and I (P < 0.05) but were similar to rations 11 and V. These differences may be due to increase of electrolytes level particularly sodium and potassium in the blood of the animals. These results were also found in conformity with those of Iqbal *et al* (1990) who obtainc d values being 12.10 and 16.50 mm 10 Afghan and Lohi sheep, respectively.

r. DifTerential leucocyte count: Differential lcucocytcs count is classified as Neutrophils, Lymphocytcs, Monocytes, Eosinophils and Basophils. The results of each are summarised in Table 1.

1. Neutrophils: The results of the study showed mean value maximum in animal fed ration IV followed by V, 11, III and lowest on ration I. Statistically non-significant differences were found in different feeding regimes. Similar conclusions were drawn by Haidcr and Siddiqui (1987). The results are in the normal range (35 to 40 %) in goats reported by Dukes (1970) .

2. Lymphocytes: Maximum values were obtained in animals fed on ration III and minimum on ration V. Statistical analysis showed non-significant difference due to

Table 1. Mean values or haematological picture or experimental animals

Particulars	Different Feeding Regimes				
	1	2	3	4	5
Haemoglobin (%)	UI.17	71,51	70.47	()7.H5	70.S5
Erythrocyte count (M/cu mm)	13.12	14.21	14,40	14.50	1(I.H5
Totallcucocyte count (throusand/cu mm)	12.73	1(,B3	12,i~5	13,41	14,16
Packed cell volume (%)	25.67	25.83	26.60	26.40	27.37
Erthrocyte Sedimentation rate (mm)					
At 1st hour	0.60	0,30	0.36	0.30	0.25
At 4th hour	2.73	1,80	2.20	1,67	2.00
At 24th hour	10,00	8.27	8.67	7.20	7.67
Differential leucocyte counts (%)					
a) Neutrophils	36.11	40.02	38.73	41,25	40.83
b) Lymphocytes	53.85	52.01	54.87	51,66	51,43
c) Monocytes	6.93	6,54	5.23	4.75	5.89
d) Eosinophils	3.10	1,03	1,18	1,34	1,19
e) Basophils	0	0	0	0	0

different feeding regimes. Similar results have been reported by Fcrnandcz *et al.* (1984) and Pyne *et al.* (]l)82). The results lies in the range(50 to 55(;,J,q reported by Dukes (1970).

cant differences between values observed on feeding regime 11, Ill, IV and V, respectively. This significant variation in animals fed Sudcx only (ration I) may be due to parasitism in individual animals at an early

Table 2. Proximate analysis of rations oll'ered and voided in the faeces by the experimental animals.

Feeding regimes	1	2	3	4	5
Sudex (%) Atriplcx (%)	HXJ 0	75 25	50 50	25 72	0 100
Moisture (%)	75.44 (61,52)	68.31 (62.73)	61,66 (64.72)	61,03 (65.22)	58.93 (65,37)
Dry matter (%)	24,56 (38,48)	31.m (37.27)	3~U4 (35.28)	38.97 (34.78)	4UJI (34.63)
Ether extract (%) ,	1,97 (2.60)	2.67 (2,51)	1,84 (2,51)	2.20 (1.XI)	2.97 (2.52)
Crude protein (%)	12.m (18.22)	9.19 (16.04)	lO.7() (14.93)	() (13.81)	9.63 (14.58)
Crude fibre (%)	28.71 (28.59)	30.2() (29 .oo)	29.70 (32.22)	32.15 (34.(J8)	30.21 (36.80)
Total ash «(Yr.J)	KM (lJ,33)	11.85 (13,(17)	J(J.55 (14.62)	1(J.30 (14.12)	16.15 (13,58)
Nitrogen free extract	48.01 (41,26)	46.03 (39.38)	41,15 (35.72)	39.72 (34.63)	42.04 (32,52)

• Values without parentheses relate to the feed offered
•• Values give in parentheses pertains to the faeces voided by expermental animals

3. Monocytes: Maximum values were found in animals kept on ration I followed by 11, III and minimum on IV. The data revealed a non-significant effect of feeding Sudex and Atriplex both in combination and alone to the dwarf goats. The results of the study are in line with Dukes (1970) and Haider and Siddiqui (1987).

4. Eosinophils: Mean values in goats fed Sudex only (ration I) showed significant difference with the mean values observed on other four rations ($P < 0.05$) but non-significant differences between values observed on feeding regime 11, Ill, IV and V, respectively. This significant variation in animals fed Sudcx only (ration I) may be due to parasitism in individual animals at an early stage. The results of the present study are therefore within the normal range (1,03 to 3.03%) and are simlar to the results reported by Fernandez *et al.* (1984) and Pyne *et al. (1982).*

5. Basophils: The values found in all the animals fed different feeding regimes were zero which is in accordance with the findings of Fernendez *et al.* (1984) who reported zero basophils percentage in their haematological studies on sheep and goats.

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