

Blood Profiles of Russian Merino Sheep

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ABSTRACT

The study was carried out to know the blood profiles of Russian Merino Sheep kept at Nalia farm. The haemoglobin, total erythrocyte count, total leucocyte count, serum calcium and phosphorus content were in the normal range as reported for different breeds of sheep. The differential leucocytic counts were also in the normal range.

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INTRODUCTION

The data regarding blood profiles of Russian Merino sheep under Indian conditions are limited. Therefore, it was thought of interest that such studies will be useful for knowing the normal physiological status of blood for sheep.

MATERIALS AND METHODS

The study was conducted on the Russian Merino Sheep kept at Nalia sheep breeding farm. These sheep were imported from Russia. The jugular vein

blood samples from 41 sheep were collected before feeding and watering in the morning from different categories of sheep during winter season only. The haematological constituents were determined by the methods recommended by Napier and Das Gupta (1954) and the chemical constituents by the methods described by Oser (1965).

RESULTS AND DISCUSSION

The results of the Haematological and chemical constituents are given in Table 1.

TABLE 1

Morphological and chemical constituents of blood of Russian Merino Sheep.

Constituents	Categories			
	Ram Lambs (12)*	Ewe Lambs (7)	Rams (9)	Ewes (13)
Haemoglobin (gm %)	8.00±0.74	8.21±0.28	8.61±0.41	8.28±0.19
T. E. C. (10 ⁶ /cmm)	5.26±0.27	3.98±0.39	4.93±0.36	4.72±0.31
T. L. C. (10 ³ /cmm)	7.42±0.50	5.71±0.85	7.41±0.84	6.82±0.46
Calcium (mg %)	10.92±0.42	11.04±0.38	11.33±0.32	11.08±0.42
Phosphorus (mg %)	8.78±0.29	7.04±0.18	8.10±0.67	6.49±0.29

Figures in the brackets indicate numbers of samples analysed.

The results indicated that the haemoglobin content of sheep varied between 8.00 to 8.61 gm per cent. The values were slightly lower in lambs as compared to the adults. Soliman and Amrousi (1965) observed 7.8 to 10.2 gm per cent of haemoglobin in the Egyptian sheep of different ages. Sharma *et al.* (1973) observed 9.51, 10.45 and 9.82 gm per cent haemoglobin in lambs, young and adult sheep respectively. Kaushik *et al.* (1978) observed the haemoglobin content in the range of 7.55 to 10.22 gm per cent in Nali sheep.

The total erythrocyte and total leucocyte counts varied between 3.98 to 5.62 million per cmm and 5.71 to 7.42 thousand per cmm respectively.

These constituents were lower in ewe lambs as compared to other categories of sheep. The erythrocyte values are lower than reported by Purushottam and Mahendra (1963) and Taneja *et al.*, (1971).

The serum calcium and phosphorus content of different categories of sheep varied between 10.92 to 11.33 and 6.49 to 8.78 mg per cent respectively and the values are in the normal range.

Further, it is also observed that the phosphorus content of ewe lambs and ewe are lower as compared to their male counter parts.

The differential counts of blood are presented in Table 2 with standard error.

TABLE 2

Differential leucocyte counts of blood of Russian Merino Sheep.

Constituents	Ram Lambs (10)*	Ewe Lambs (8)	Rams (8)	Ewes (12)
Polymorphs	28.22	33.13	29.75	34.92
%	±1.69	±2.33	±1.41	±2.13
Eosinophils	6.00	3.12	4.25	2.42
%	±0.55	±0.74	±0.045	±0.53
Lymphocytes	61.45	60.63	62.75	60.83
%	±2.10	±2.68	±2.03	±2.32
Monocytes	4.33	3.12	3.25	1.83
%	±0.85	±0.44	±0.37	±0.49

*Figures in the brackets indicate numbers of samples analysed.

The results revealed that the polymorphs are lower in ram lambs and ram as compared to their female counter parts. The values were in the range of 28.22 to 34.92 per cent.

The eosinophils, lymphocytes and monocytes were on an average in the range of 2.42 to 6.00, 60.63 to 62.75 and 1.83 to 4.33 per cent respectively. The values were slightly higher in ram lambs and rams compared to their female counter parts. However, these values

are in the normal range as reported by Hackett *et al.*, (1957) and Holman (1944) for various breeds of sheep.

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