

HAEMATOLOGICAL STATUS DURING OESTRUS CYCLE IN REGULAR AND REPEAT BREEDING RED KANDHARI COWS

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ABSTRACT

The results of the present study revealed that all haematological parameters (Hb,TEC,TLC, PCV ,Lymphocytes and Eosinophils) were significantly ($P<0.01$) lower in repeat breeder cows as compared to regular breeder cows , except two parameters Neutrophil and Monocytes which were significantly ($P<0.01$) higher in repeat breeder cows as compared to regular breeder cows .

KEY WORDS: Repeat breeder, Haematological parameters, Cows, Cattle

INTRODUCTION

Red Kandhari is a local breed of Marathwada region. The exact cause of repeat breeding in bovine reproduction is still an enigma in many cases. Various pathological and metabolic disorders adversely affect the productive and reproductive performance of cows, leading to heavy economic losses, haematological profile may be useful in diagnosis the exact cause of repeat breeding. Shahapure and Kekan, (2014) Reported reproductive failure due to deficiencies of single or combined trace elements and by their imbalances.

The study of normal level of various blood constituents and its variation that occur in repeat breeder may help in evaluating the reproductive potential of the animals and to minimize the cause to some extent. Therefore, the present study was undertaken to estimate and compare haematological status during various stages of oestrus cycle in regular and repeat breeder cows.

MATERIALS AND METHODS

The cows which required one or at the most two inseminations for conception and showed normal oestrus behavior were grouped as regular breeder. The animals in the repeat breeder group have normal genitalia but failed to conceive with more than two inseminations were grouped as repeat breeder. Twelve cows (six repeat breeder and six regular breeder) were included in the present study . Blood samples of each cow from both the groups were collected on 0 day (on day of oestrus or on the day of artificial insemination), second and third blood samples were collected on 8th and 15th day respectively, from the day of insemination. About 4-6 ml of blood was collected in the sterilized glass vial contained anticoagulant EDTA and was processed for haematological studies by routine standard method. The data were analyzed by using statistical procedures and interpretations based on statistical findings (Snedecor and Cochran, 1989).

RESULTS AND DISCUSSION

From the results of the present study (Table1) it is observed that all haematological parameters (Hb,TEC,TLC, PCV ,Lymphocytes and Eosinophils) were significantly ($P<0.01$) lower in repeat breeder cows as compared to regular breeder cows , except two parameters Neutrophil and Monocytes which were significantly ($P<0.01$) higher in repeat breeder cows as compared to regular breeder cows .

Lower haemoglobin level in repeat breeder may be attributed as a predisposing factor . Kumar *et al.* (1985) and Gujar *et al.* (1990) reported lower haemoglobin in repeat breeder cows . The findings of present study on haematological profile corroborate with Khan and Mishra (1995) and Shahzada *et al.* (1996).

Higher PCV % in regular breeder might be due to the fact that the physiological functions of various body tissues including the reproductive tissues, depend upon the availability of energy from the oxido-reductive reactions; which otherwise were directly dependent on the supply of oxygen. Shahzada *et al.* (1996) stated that neutrophilia along with relative lymphopenia is associated with infection, causing increase in neutrophil count in repeat breeder cows. No basophil was found in both the groups of regular and repeat breeding cows in the present study.

Significant differences ($P < 0.05$) on 0, 8th and 15th days were noted in TLC and PCV. However, significant ($P < 0.05$) difference was recorded in interaction between days and reproductive status of eosinophil count, whereas, the difference in Hb, TEC, lymphocyte, monocyte and neutrophil remained non significant on 0, 8th and 15th days of oestrus cycle. All the values in the present study were in close approximation with Schalm *et al.* (1965).

Table. Mean \pm SE values of haematological parameters during oestrus cycle in regular and repeat breeding cows

Parameters	Reproductive Status	Haemato	
		0 Day	8 th Day
Hb (gm %)	Regular Breeder	10.23 \pm 0.64	9.33 \pm 0.37
	Repeat Breeder	8.36 \pm 0.28	8.33 \pm 0.44
TEC (10 ⁶ /cmm)	Regular Breeder	6.52 \pm 0.28	6.26 \pm 0.20
	Repeat Breeder	5.37 \pm 0.34	5.42 \pm 0.28
TLC (10 ³ /cmm)	Regular Breeder	10.20 \pm 0.45	11.18 \pm 0.60
	Repeat Breeder	9.45 \pm 0.32	10.58 \pm 0.20
PCV (%)	Regular Breeder	32.66 \pm 1.47	33.51 \pm 1.03
	Repeat Breeder	27.36 \pm 0.93	28.65 \pm 0.38
Lymphocytes (%)	Regular Breeder	60.66 \pm 0.76	58.00 \pm 1.12
	Repeat Breeder	50.50 \pm 0.42	52.83 \pm 1.01
Neutrophils (%)	Regular Breeder	24.66 \pm 1.17	26.16 \pm 0.54
	Repeat Breeder	35.16 \pm 0.79	34.66 \pm 1.05
Eosinophil (%)	Regular Breeder	11.66 \pm 0.42	13.33 \pm 0.49
	Repeat Breeder	8.83 \pm 0.30	7.50 \pm 0.61
Monocytes (%)	Regular Breeder	3.00 \pm 0.51	2.83 \pm 0.40
	Repeat Breeder	5.16 \pm 0.30	5.00 \pm 0.36

** indicates significant at $P < 0.01$

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