

Fertility in relation to time of insemination in Assam local goat

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Received : March 10, 2000

Accepted : May 15, 2002

ABSTRACT

One hundred and eleven adult female healthy Assam Local Goats belonging to organised farm and private breeders were used to determine the best time of insemination for conception. Oestrus was detected either by a vasectomised buck or manual observation. Goats were inseminated with frozen semen of a proven buck. Assumption of conception by non-return basis was confirmed by actual kidding. The highest conception rate was recorded in goats inseminated at 36 hours, followed by 42, 30 and 24 hours of onset of oestrus. The overall conception rate was higher in goats at organised farm as compared to those with private breeders.

Key words : Frozen semen, AI, fertility, oestrus, goat

The economy of goat rearing depends on the reproductive performances of the stock. Information regarding fertility in relation to time of insemination in Assam local goat is lacking. Therefore, the present investigation was under taken to determine the best time of insemination to achieve higher conception rate in Assam local goat.

Present study was conducted in 111 adult female healthy Assam local goats, 41 of which belonged to organised farm. Oestrus detection in this category was done by parading a vasectomised buck in the paddock thrice daily, i. e. at 6 a.m., 12 noon and 6 p.m. First acceptance by the buck was considered to be the onset of oestrus. Occurrence of oestrus was recorded without exposing to a vasectomised buck in remaining 70 goats owned by private breeders that were brought to the clinic for artificial insemination. The onset of oestrus was calculated in the second category goats from the time of exhibition of oestrus behaviour viz., bleating, wagging of tail and micturition. The does in oestrus were inseminated artificially with frozen semen (0.5 ml) using vaginal speculum at different stipulated hours from the onset of oestrus and were divided into

four groups viz., group I (Inseminated at 24 hours), group II (Inseminated at 30 hours), group III (Inseminated at 36 hours) and group IV (Inseminated at 42 hours). Conception rate was determined based upon 60 days non-return and actual kidding. Statistical analysis of the data was done following the methods of Snedecor and Cochran (1967).

Conception rate in different groups of goats at organised farm has been given in Table 1. Conception rate on the basis of 60 days non-return was found to be the higher in group III (80.00%); however, there was no significant difference between the groups. Conception rate on the basis of actual kidding was found to be higher in group III (70.00%), the difference between the groups being statistically non-significant.

Conception rate at private breeders on the basis of 60 days non-return was found to be the higher in group III (78.57%) though statistical analysis revealed no significant difference between the groups (Table 1). The higher conception rate on the basis of actual kidding was also recorded in Group III (71.43%) although there was no significant difference between the different groups. This is in contrast to Mathew (1983) who recorded a lower conception rate in goats inseminated on the following day of oestrus. This

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Table 1. Conception rate of goat on the basis of 60 days non-return and actual kidding in different groups maintained at organised farm (n=41) and with private breeders (n=70)

Group	Types of maintenance	Number of goats inseminated	Number of goats conceived	Non-return		Kidding	
				Conception rate (%)	Number of goats conceived	Conception rate (%)	
Group I (inseminated at 24 hours)	Organised Farm	9	6	66.77	3	33.33	
	Private Breeders	21	13	61.90	9	42.86	
Group II (inseminated at 30 hours)	Organised Farm	12	8	66.67	7	58.33	
	Private Breeders	20	13	65.00	9	45.00	
Group III (Inseminated at 36 hours)	Organised Farm	10	8	80.00	7	70.00	
	Private Breeders	14	11	78.57	10	71.43	
Group IV (inseminated at 42 hours)	Organised Farm	10	7	70.00	5	50.00	
	Private Breeders	15	8	53.33	7	46.67	

n = number of animal

could be attributed to the difference in breeds, managemental conditions and time of artificial insemination. The findings of the present study are in agreement to those of Sahni and Roy (1967) and Mohna and Ong (1981). The highest conception rate obtained in the group III goats both maintained by organised farm and private breeders could be due to expediency of time of insemination in relation to ovulation.

The overall conception rate on the basis of both 60 days non-return and actual kidding was found to be higher in the goats of organised farm (29/41; 70.73% and 22/41; 53.66% respectively) as compared to private breeders (45/70; 64.29% and 35/70; 50.00% respectively), although the difference was statistically non-significant. This might be due to the improved managemental condition and use of artificial

insemination after proper detection of oestrus by a vasectomised buck in organised farm.

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