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Short Communication

Studies on the incidence and causes of infertility in goats reared under field conditions

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ABSTRACT

The incidence of infertility (forms and causes) was studied in goats reared under field conditions. Overall incidence of infertility was 11.50%, which was of moderate degree in this species. Anoestrus and abortion were recognized as major causes leading to lowered fertility followed by repeat breeding and still birth. Goats should be allowed to reproduce after attaining 60 to 65% of adult body weight.

Key Words : Goat, infertility, anoestrus, abortion

Small ruminants significantly contribute to milk, meat and fiber production in India. Flock productivity is affected by a wide range of disease problems leading to reproductive wastage. Reproductive wastage may be due to the number of reproductive problems of diverse nature. For profitable goat production proper attention of reproductive problems is a must. Goats are important source of livelihood for the people staying below the poverty line besides its commercial exploitation, which is coming in a big way in this country. Extent of infertility is largely known in large ruminants but such information is scanty in goats reared under farmer's field. Present investigation was therefore aimed to know magnitude and major underlying causes of impaired fertility in goats reared under rural conditions at farmer's door.

Present investigation comprised of four hundred nine adult goats which belonged to farmers fields. Goats under study were of mixed genotype (Barbari, Sirohi, Jamunapari, Non-descript). To collect information from field, a flexible schedule was developed and used to collect data on different aspects of goat reproduction from goat owners. Accordingly field visits were undertaken in four operational villages of the institute, located within an area of 5-6 km radius. Goats under farmer's fields were traditionally reared in extensive system of management.

Goats were sent out for grazing in fields and in the evening they were provided locally available tree loppings and greens as per their seasonal availability. Prior to clinical examination a detailed history of each infertile animal was recorded from goat owners to know the forms and causes of infertility. Blood samples of goats were collected and tested in laboratory for Brucellosis. Recorded data and observations were tabulated and arranged according to various causes of infertility observed. Based upon the observations infertility was categorized into two major forms as functional and infectious in nature. The variations in different forms were analyzed as per the Snedecor and Cochran (1980) for test of proportion.

Major forms and causes of infertility investigated in present study have been shown in Table 1. It was observed that out of total 409 goats examined, 47 goats (11.50%) were having one or another form of reproductive disorders leading to lowered fertility. Cause-wise anoestrus was recognized a major problem (21, 5.14%) followed by abortion (18, 4.40%) in goats ($P>0.05$). The incidence of other causes i.e. repeat breeding, still birth (female) and serving inability (male) were of lower magnitude. On analyzing the data to appreciate various causes of infertility, it was observed that none of the goat could attain body weight and age necessary for attaining puberty. Under nutrition due to non-availability of sufficient grazing bio-mass was observed an important factor for anoestrus condition. Abortion was recognized next in order for lowering fertility. All the cases of abortion were confirmed

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Table 1. Incidence and causes of infertility in goats

Total No. of goats examined	Major forms of infertility	Causes of infertility	No.	%
409	Functional	* Anoestrus	21	5.14
		*Impotentia coeundi	01	0.24
				5.38*
	Infection	*Abortion	18	4.40
		*Repeat breeding	05	1.22
		*Still birth	02	0.48
				6.10*
Total			47	11.50

* P>0.05

for Brucellosis by laboratory diagnosis for infectious cause of infertility. It was mainly due to poor manage mental and hygienic conditions prevailing in farmers flocks.

The incidence of infertility investigated in rural goats under present study is of lower magnitude, which is in consonance with the findings of earlier workers in sheep and goats (Rao, 1997; Smith, 2001). Other workers (Falade and Sellers, 1976; Smith and Van Houtert, 1988) had similar findings on infertility in small ruminants of South Africa. Comparatively lower incidence of abortion and still birth (4.88%) in our study is in close conformity with the findings of Kumar *et al.* (2001) in Jakhrana goats which were maintained under organized farm conditions of western Rajasthan. Brucellosis has been reported an important disease leading to abortions in goats (Mrunalini *et al.*, 2000 and Verma *et al.*, 2000).

In the light of present study it may be concluded that incidence of infertility in goats is of moderate degree in comparison to large animal species like cattle and buffalo. Results ,however warrant improved nutritional practices of pre-pubertal goats under rural conditions. It is emphasized that animal owners should allow breeding of their goats only after attaining 60 to 65% adult body weight and age. Further, goats under field conditions also require proper management and hygienic practices before, during and after kidding to minimize lowered fertility.

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REFERENCES

Falade, S. and Sellers, K.C. (1976). Reproductive losses in female goats. Nigerian J. Anim. Prod., 3: 131-133.

Kumar, A., Tomar, A.K.S. and Kumar, Abhay.(2001). Factors affecting sex ratio and abnormal kidding in Jakhrana goats in western Rajasthan . Indian J. Small Rumin., 7: 113-115.

Mrunalini, N., RamaSastry, P., Pandrinadh, G.H. and Ramakrishna Rao, M. (2000). Control of Brucellosis epidemic in goats in a farm. Indian Vet. J., 77: 932-935.

Rao Rama Mohana, A. (1997). Reproductive Disorders in Sheep and Goats. *Reproductive Disorders in Indian Livestock.* Lokeshwer RR (ed). Revised edn, pp. 76 DIPA. Indian Council of Agricultural Research, KAB, PUSA, New Delhi, India.

Smith, K. (2001). Infertility in the Ewe and Doe (Female goats). In: *Arthur's Veterinary Reproduction and Obstetrics.* Noakes EA, Parkinson TJ, and England GCW (eds) WB Saunders, Philadelphia, Pennsylvania pp. 570.

Smith, O.B. and Van Houtert, M.F.J. (1988). Health aspects of Intensive Management of West African Dwarf Goats. Bull. Anim. Health Prod. Africa, 36: 342-347.

Snedecor , G.W. and Cochran ,WG.(1980) . *Statistical Methods.* VII edn. The Iowa State Univ. Press Ames, Iowa, USA.

Verma, Subhash, Katoch, R.C., Mahajan, Arvind and Chahota, Rajesh. (2000). Sero-epidemiology of brucellosis among sheep and goats in Himachal Pradesh. Indian J. Small Rumin., 6: 113-114.