

INTERNAL PARASITISM IN SHEEP AND GOATS UNDER EXTENSIVE GRAZING SYSTEM

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INTRODUCTION

Sheep and goats face persistent threat of internal parasitism in extensive grazing system which seriously affects the health of the flock and leads to reduced weight gain, poor quality meat, decreased wool, hair clip and great numerical losses. There is a paucity of information on the epidemiological aspects of internal parasites of sheep and goats. The present study was undertaken to establish the association between occurrence of internal parasitism with regard to breed difference under extensive grazing system.

MATERIALS AND METHODS

Faecal materials from animals were collected directly from the rectum of animals. About 2 g of faeces were thoroughly mixed with 20 mL of saturated solution of sodium chloride with mortar and pestle. The suspension was passed through a fine mesh wire strainer. A cover slip was placed on top of the suspension in a way that the suspension remained in contact with the cover slip. The suspension was allowed to remain in this position for 15 minutes after which the cover slip was removed and examined under microscope.

RESULTS AND DISCUSSION

The study was conducted for three years i.e. 1994-96. Of the total number of cases examined (3489)

during the study, 2810 (80.5%) animals were found to be infected with round worms. A higher incidence of worm infestation in sheep was observed as compared to goats. A high incidence of gastrointestinal nematodes in sheep than goats has been reported (Riche *et al.*, 1973; Suh *et al.*, 1980; Durrani, 1991; Maqsood *et al.*, 1996) which may be attributed to its ground grazing habits with expose the animals to the infection.

Within maintained sheep breeds, Pak-Karakul was observed to be infected more compared with Thalli (Table 1). This might be due to its exotic origin that makes it more vulnerable to infection. In sheep, prevalence of *Haemonchus* was observed to be maximum followed by *Ostertagia*, *Nematodirus*, *Marshallgia*, *Strongyloides* and others (Table 2).

Within goat breeds, Beetal was observed to be infected slightly more than Teddy (Table 1). In goats, too, the prevalence of *Haemonchus* was maximum. This was followed by *Nematodirus*, *Ostertagia*, *Marshallgia* etc. (Table 2). The Khairwala is a depleted range that gets poor annual rainfall (13.2" in 1978; 8.8" in 1979-80, 12.4" in 1980-81; 8.0" in 1981-82) and is sporadically covered with grazable green plants. As a result, the animals which depend mainly on grazing, are marginally fed. This scenario contributes to high incidence of gastrointestinal helminths (Pal and Qayyum, 1993; Rafique *et al.*, 1997) as against zero grazing where the problem of internal parasitism is moderate (Chartier *et al.*, 1992). The *Haemonchus* menace persists despite a regular deworming programme which reflects that deworming alone may

Table 1: Prevalence of internal parasitism in sheep maintained at LES Khairwala

	1994-95	1995-96	1996-97	Average
Sheep				
Thalli	81.0(417)	88.0(368)	69.0(289)	79.3(1074)
Pak-Karakul	96.0(346)	69.0 (791)	91.0(193)	85.3(1330)
Goats				
Beetal	78.0 (311)	74.0(230)	79.0(138)	77.0(756)
Teddy	61.0 (136)	73.0(139)	88.0(54)	74.0(329)

Figures in parenthesis indicate number of observations

not result in effective eradication/control of internal worms in this area unless it is undertaken in association with a rotational grazing and nutritional management programme.

Table 2: Prevalence of infection of various parasites in sheep and goats

Species of parasites	Per cent of prevalence	
	Sheep	Goats
<i>Haemonchus</i>	43	44
<i>Ostertagia</i>	40	12
<i>Nematodirus</i>	7	22
<i>Marshallgia</i>	4	9
<i>Strongyloides</i>	3	7
Others	2	6

ACKNOWLEDGEMENTS

The help of Mr. Ghulam Rasool and Mr. M. Aslam, Laboratory Technicians of this centre is acknowledged.

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