

## PREVALENCE OF GASTROINTESTINAL PARASITES IN SHEEP AND GOATS MAINTAINED AT NARC, ISLAMABAD

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### ABSTRACT

Prevalence of gastro-intestinal parasites in sheep and goats maintained at Animal Science Institute, National Agricultural Research Centre (NARC), Islamabad was investigated. Seven species of nematodes were recorded. *Haemonchus contortus* (sheep 87% and goats 92%) followed by *Trichostrongylus* spp. (sheep 77.41% and goats 81%) had the highest prevalence.

**Keywords:** Prevalence, gastro-intestinal parasites, sheep and goats

### INTRODUCTION

Parasitic infestations exert adverse effects on the health and productivity of animals in Pakistan. These effects are varied and more pronounced in sheep and goats compared to those seen in other species of livestock. Different workers have conducted studies on the prevalence of gastrointestinal parasites in sheep and goats in different parts of the country (Durrani *et al.*, 1981; Marwat *et al.*, 1988; Khan *et al.*, 1989; Javed *et al.*, 1992). This report presents the prevalence of the nematodes in sheep and goats maintained at Animal Sciences Institute, NARC, Islamabad.

### MATERIALS AND METHODS

The study was conducted on 62 sheep and 25 goats maintained at Animal Health Laboratories, Animal Sciences Institute (ASI), NARC, Islamabad. The faecal samples were collected in polythene bags directly from the rectum and brought to the laboratory immediately for analysis. Faecal examination was done by salt flotation method (Khan, 1993). The eggs per gram of faeces (EPG) were determined (Anonymous, 1979).

### RESULTS AND DISCUSSION

Of 87 faecal samples examined, all (100%) were found infected with one or more than one type of parasitic ova. Eggs of the species recorded, their

prevalence rate and intensity of infection in sheep and goats are presented in Table 1. Eggs of seven different species were recorded and these all belonged to nematodes. When compared amongst the different species, the prevalence of *Haemonchus contortus* was recorded to be the highest (sheep 87% and goats 92%) followed by *Trichostrongylus* spp. (sheep 77.44% and goats 81%).

Breed-wise incidence of different parasites in sheep and goats is presented in Table 2 and 3, respectively. *Haemonchus contortus* followed by *Trichostrongylus* spp. had the highest prevalence in all the three breeds of sheep and two breeds of goats. As regards intensity of infection (egg per gram of faeces), *Haemonchus contortus* was again found to have the heaviest load in both the species and in all the breeds of sheep (Table 2) and goats (Table 3).

All the nematode species recorded in the present study have been reported by previous workers (Marwat *et al.*, 1988; Khan, 1992-93; Pal and Qayyum, 1993). These nematode species are of economic importance in tropics (Tembley and Hansen, 1996). The development, survival and transmission of eggs and ineffective larvae of these parasites are influenced by climatic and environmental factors such as temperature, humidity and precipitation (Tembley and Hansen, 1996). The climatic conditions prevalent in Pakistan, all favour the growth and propagation of these parasites. *Haemonchus contortus* females have a very high fecundity rate. The higher prevalence rate of this species in the present study, therefore, could be attributed its high prolific rate.

**Table 1: Overall prevalence of different parasites in sheep and goats at NARC, Islamabad.**

Name of parasites	Sheep (n = 62)		Goat (n = 25)	
	% Infected	Egg per gram (EPG)	% Infected	Egg per gram (EPG)
<i>Haemonchus contortus</i>	87.00	4200-9800	92	200-10000
<i>Trichostrongylus spp.</i>	77.41	3200-4800	81	200-8000
<i>Chabertia ovina</i>	53.22	200-1400	48	200-1400
<i>Nematodirus spathiger</i>	24.19	200-1200	60	200-1600
<i>Trichuris globulosa</i>	29.30	200-600	32	200-800
<i>Oesophagostomum spp.</i>	19.31	200-400	16	200-200
<i>Ostertagia circumcincta</i>	17.74	200-400	8	200-600

**Table 2: Breed-wise prevalence of different parasites in sheep at NARC, Islamabad.**

	Salt range (n = 41)		Afghani (n = 17)		Crossbred (n = 4)	
	% Infected	EPG (Range)	% Infected	EPG (Range)	% Infected	EPG (Range)
<i>Haemonchus contortus</i>	85.36	400-6600	82.35	1400-9800	75	4200-7000
<i>Trichostrongylus spp.</i>	78.04	400-4400	82.35	1000-5000	50	3200-4800
<i>Ostertagia circumcincta</i>	24.39	200-800	47.05	200-400	0	0-0
<i>Nematodirus spathiger</i>	56.09	200-1000	58.82	200-1200	0	0-200
<i>Chabertia ovina</i>	14.63	200-1400	41.70	200-1200	50	0-0
<i>Oesophagostomum spp.</i>	19.31	200-2000	23.52	200-400	0	0-0
<i>Trichuris globulosa</i>	26.82	200-1000	41.17	200-1200	0	0-0

**Table 3: Breed-wise prevalence of different parasites in goats at NARC, Islamabad.**

Name of parasites	Beetal (n = 15)		Teddy (n = 10)	
	% Infected	EPG (Range)	% Infected	EPG (Range)
<i>Haemonchus contortus</i>	90.33	1000-8000	90	1000-8000
<i>Trichostrongylus spp.</i>	80.00	200-12000	90	800-10000
<i>Ostertagia circumcincta</i>	6.66	200-600	10	200-400
<i>Nematodirus spathiger</i>	66.66	200-400	50	200-400
<i>Chabertia ovina</i>	60.00	200-400	20	200-400
<i>Oesophagostomum spp.</i>	20.00	200-400	10	200-400
<i>Trichuris globulosa</i>	40.00	200-400	20	200-400

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