

## MONTHWISE PREVALENCE OF GASTRO-INTESTINAL TREMATODES, CESTODES AND NEMATODES INFECTING DAMANI SHEEP AND GOATS IN DISTRICT D.I.KHAN

Najeeb-ur-Rehman and Akhtar Ali

*Veterinary Research and Diagnostic Laboratory, D.I. Khan, Pakistan.*

### ABSTRACT

During this study 48 positive gastro-intestinal tracts each of sheep and goats were examined to determine the month wise prevalence of trematodes, cestodes and nematodes. Trematodes infection was 16.66% both in sheep and goats in May whereas in June, July and August it increased to 25% in sheep and similar increase was recorded in June and July in goats which dropped to 8.33% in August. Cestodal infections in sheep and goats, showed highest record in June 33.33% and August 41.16% respectively. Nematodal infections in sheep showed the lowest records in June 41.66% which increased in July 50%, May 58.33% and August 58.33%. In goats the lowest records were observed in June 41.66% with an equal increase in May and August i.e. 50%.

**Key words:** Gastro-intestinal trematodes, Cestodes, Nematodes, Sheep and Goats.

### INTRODUCTION

The gastro-intestinal tract of sheep and goats harbours wide variety of helminthes which adversely affect the nutritional status and even cause death of the host (Irfan, 1984). During heavy infestation the animals show the symptoms like gastritis, enteritis, diarrhoea, stunted growth, loss of body weight, loss of wool and body hairs and reduced milk production (Soulsby, 1986). Sanyal *et al.* (1996) reported that the parasitic gastritis dominated by haemonchosis, was a major constraint to the profitable sheep and goats production in India as the climate is favourable for the development and survival of free living stages of these parasites throughout the year. The impact of parasitism is immensely important towards the productive capabilities and certain other disorders like sterility in animals (Terbalanche, 1979). Hence gastro-intestinal trematodes, nematodes and cestodes of sheep and goats are one of the principal obstacles in the development of profitable sheep and goats industry.

At present the district D.I. Khan comprises 1,44,080 and 3,40,994 heads of sheep and goats respectively (Anonymous, 1996). Keeping in view the population, it was decided to conduct research on the month wise prevalence of gastro-intestinal trematodes, nematodes and cestodes, in Damani sheep and goats in District D.I. Khan in order to formulate rational deworming programme for the farmers of Damani sheep and goats at district D.I. Khan.

### MATERIALS AND METHODS

The study was designed to assess the month wise prevalence of gastro-intestinal trematodes, nematodes and cestodes in Damani sheep and goats in district D.I. Khan and was conducted at Veterinary Research and Diagnostic Laboratory, District D.I.Khan from May to August 1998.

For the purpose a total of 96 positive guts (48 of sheep and 48 of goats) were collected from slaughter house D.I. Khan and meteorological data on temperature and humidity was also collected from meteorological department, D.I. Khan.

Three guts of sheep and goats were collected from the abattoir of D.I.Khan and examined per week. It was also ensured that the animal examined had not been given any anthelmintic i.e. at least one month before the slaughter.

#### Collection of Material:

Faecal samples were collected directly from the rectum of each sheep and goat and examined under the microscope by direct smear method on the spot and the guts of the animals positive for helminthes were collected after slaughter.

These guts were put in separate polythene bags. Each sample material was labeled with specific number and date of collection. All the collected material was brought to the Veterinary Research and Diagnostic Laboratory, D.I. Khan for further investigation.



### Collection of Gastro-Intestinal Parasites:

Each gastro-intestinal tract was divided into 3 parts i.e. stomach, small and large intestine by ligation. Each compartment of the compound stomach was incised throughout its entire length. Each part of small and large intestine was also incised longitudinally through its entire length. The contents of the incised gastro-intestinal tracts were collected in separate glass containers by through rubbing and scrubbing of the mucosa with the help of the scalpels. The contents were further processed for collection of parasites as described by Soulsby (1986). An accurate and complete record for site of predilection was kept and the incidence of trematodes, nematodes and cestodes naturally infecting sheep and goats was recorded.

### Identification of Parasites:

The parasites were identified by using low and high power of microscope according to the keys and morphological characteristics (Soulsby, 1986).

## RESULTS AND DISCUSSION

The overall incidence of gastro-intestinal parasitism as recorded from May to August 1998 in sheep and goats was 67.60 and 55.81%, respectively. The results are almost in line with findings of Khan *et al.* (1989) who reported the prevalence of helminthes as 58.4% in sheep and 54.4% in goats.

The study also indicated that overall percent incidence of trematodes, nematodes and cestodes was 22.91, 52.08 and 25% in sheep and 18.75, 47.91 and 33.33% in goats, respectively (Table 1).

It was evident from the study that the highest incidence of trematodes was recorded in sheep in months of August (25%) as compared with goats (8.33%), while the rate of infection was almost the same both in sheep and goats in May, June and July, 1998. The percentage of cestodal infection almost remained the same in May, June and July but in August the rate of infection was 16.66 and 41.16% in

sheep and goats respectively (Table 1).

On the other hand nematodal infection was higher during the months of May and August in sheep (58.33%) as compared to goats (50.00%) and the infection percentage was almost same in the months of June and July both in sheep and goats. In the present study the highest percentage of parasitic infection was recorded during the month of August (Table 1), which might be due to the optimal conditions (hot and humid climate) leading to the development and marked increase in the availability of the intermediate hosts.

The parasitic infections relate to the prevalence of humidity during the study period which also occurred in the similar pattern increasing from 49 to 74% depending upon the rainfall in the particular area. The findings of the present study also in close agreement to that of Enyenihi *et al.* (1975) who claimed that optimal conditions (hot and humid climate) are really helpful in the development of these parasites.

In the light of the above discussion it is concluded that animals should be regularly monitored through faecal examination for the presence of gastro-intestinal tract parasites in sheep and goats in order to provide rational treatment and make them useful and profitable to our farmers.

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Table 1: Month wise and total incidence of gastro-intestinal parasites infecting damani sheep and goats in district D.I. Khan

Month	Sheep (n=48)			Goats (n=48)		
	Trematodes	Cestodes	Nematodes	Trematodes	Cestodes	Nematodes
May	2(16.66)	3(25.00)	7(58.33)	2(16.66)	4(33.33)	6(50.00)
June	3(25.00)	4(33.33)	5(41.66)	3(25.00)	3(25.00)	5(41.66)
July	3(25.00)	3(25.00)	6(50.00)	3(25.00)	4(33.33)	6(50.00)
August	3(25.00)	2(16.66)	7(58.33)	1(8.33)	5(41.66)	6(50.00)
Total(n=48)	11(22.91)	12(25.00)	25(52.08)	9(18.75)	16(33.33)	23(47.91)

Monthly sheep examined 12. Monthly goats examined=12, Figures in parenthesis indicate percentage.

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