



Tropentag, October 5-7, 2011, Bonn

“Development on the margin”

Prevalence of Helminth Infestation in Pastoral Sheep and Goat Flocks in the Cholistan Desert of Pakistan

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Abstract

Intestinal helminths constitute a major problem for livestock keepers in Pakistan, since chronic infestations lead to distinct losses in livestock productivity, particularly retarding growth of young animals. This project evaluated the prevalence of intestinal helminths in pastoral sheep and goat flocks of the Cholistan desert, a lesser developed and relatively poor area, where livestock husbandry forms the backbone of the regional economy.

Faecal samples - 300 of sheep and 300 of goats - were collected from 60 pastoral flocks comprising 8–150 animals in three different localities of Cholistan during February - April 2011, whereby the ratio of suckling, young, and adult animals was 20 : 40 : 40 and the male to female ratio was 30 : 70. Five to ten grams of faeces per animal were collected in a zipper polythene bag and refrigerated until analysis. By using direct and indirect (floatation) techniques, faeces were examined and helminth eggs and larvae were identified.

Overall prevalence of intestinal parasites amounted to 76.8% in the studied 600 small ruminants. Of the goats, 77.0% were infested with helminths, whereby the highest prevalence was recorded for nematodes (39.7%), followed by trematodes (6.7%), and cestodes (2.3%). In sheep overall prevalence of intestinal parasites was 76.7%. Nematodes were again most frequent (46.0%), followed by trematodes (6.0%), and cestodes (3.3%). In addition to helminthiasis, protozoa infection was also determined in 2.0% of goats and 0.7% of sheep. Mixed infestations accounted for 26.3% and 20.7% of all cases in goats and sheep, respectively. While in goats slightly more males (77.4%) than females (76.7%) were infested, the opposite was found in sheep (69.3% males, 79.5% females). With respect to age groups, helminths were especially prevalent in suckling goats (87.4%) and sheep (85.4%), although infestation levels in young animals (79.0% in both species) and adults (goats 70.5%, sheep 72.1%) were also considerable.

The results indicate that particular attention should be paid to regular de-worming of the animals, and helminth species should be screened for resistance against anthelmintics commonly used in the area.

Keywords: Cestodes, intestinal parasites, nematodes, protozoa, small ruminants