

## Endoparasites in Cattle in Gedarif State, Sudan

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### ملخص البحث

تم مسح الطفيليات الداخلية في 160 رأس من الأبقار في ولاية القضارف، وجد أن 108 من الأبقار مصابة بالديدان الداخلية. كانت أجناس الديدان الخيطية تمثل 28.7% من المجموع الكلي للطفيليات التي تطفلت على الأبقار و تمثل المتقويات 7.3% والديدان الشريطية 1.9% والآوى 62%. الطفيليات التي وجدت في هذه الحيوانات هي أنواع من قواغر المرئ شبيرتها , أسكاريس، ترايكو سترونجايلس والأميرية. يجب وضع خطة فعالة لطرده الديدان والتحكم في الإصابة بالطفيليات .

### Summary

A survey of helminth parasites of cattle was conducted in Gedarif State. The number of animals infected was 108 out of 160. Nematode parasites constituted 28.7% of the total parasite infection; trematodes, cestodes and protozoan parasites constituted 7.3%, 1.9% and 62.0% of the infection, respectively. Common parasites which were found to infect these animals were *Oesophagestomum radiatum*, *Chabertia ovina*, *Ascaris* spp., *Trichostrongylus* spp. and *Eimeria* spp. An effective deworming schedule should be adopted to control parasitic infections.

### Introduction

The gastrointestinal parasitism comprises clinical or sub-clinical infections; the latter, being the most common and of great economic importance (Makundi *et al*, 1998). The indirect losses were manifested by decreased growth of young calves and delayed maturity of slaughter stock (Chaudary *et al*, 2007). The study of Swai *et al* (2006) has revealed that low to moderate strongyle eggs and coccidian oocysts counts are considered to cause economically important sub-clinical infection which leads to retarded growth rate, more animal susceptibility to other infections and contamination of pastures.

In Sudan, the prevalence of helminth parasites in cattle was reported in Southern Sudan and the parasites recorded were *Fasciola gigantica*, Hydatid cyst and *Cysticercus bovis* (Karib, 1962; Eisa *et al*, 1962). In a survey of internal parasites in cattle, 6 genera were encountered in Equatoria Province and 5 genera in Bahr El Gaazal Province (El Badawi *et al*, 1976). In western Sudan, 270 cattle were examined by El Badawi *et al* (1978) and the parasites encountered were *Fasciola gigantica*, *Paramphistomum* spp., *Schistosoma bovis*, *Cysticercus bovis*, *Nematodirus* spp., and *Oesophagestomum radiatum*. Bovine coccidiosis was investigated by Elbihari and Hussein (1974) and *Eimeria kosti* was isolated from a cow in the White Nile Province. Also *Sarcocystis* spp., *Toxoplasma gondii* and *Besnoitia* spp. were reviewed by Gasmir *et al* (1990). Six genera of nematodes, 2 genera of trematodes were found in cattle in Damazin District (Mohammed and Atta, 2003).

The objective of this study was to investigate parasitism in cattle in Gedarif State.

### Materials and Methods

Faecal samples (about 3-5g) were obtained per rectum from 160 cattle (1 to 5-year- old) at varying climatic conditions over a period of 9 months in Gedarif State. The animals manifested loss of weight, anorexia and diarrhoea. The samples were collected from cattle as follows: 9 from Gedarif centre, 12 from Gadarif east, 10 from El Faw west, 107 from El Gallabat east and 22 from El Gallabat west. Individual faecal egg counts (FECs) and oocyst counts were determined using the McMaster method (Coles, 1986).

### Results

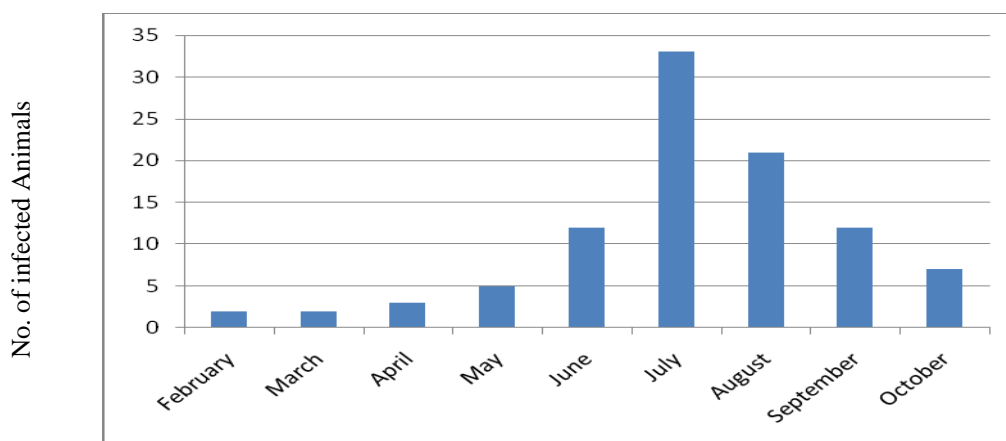
Out of 160 cattle examined for the presence of parasitic ova and oocysts, 108 (67.5%) were found to be infected with endoparasites. Parasitic genera of nematodes, trematodes , cestodes and protozoan were represented by 31 (19.4%), 8 (5%), 2 (1.9%) and 67 (41.9%) positive cases (samples), respectively.

The most common genera of nematodes were *Oesphagostomum*, *Chabertia* and *Trichostrongylus*. The genera of trematodes were *Fasciola* and *Schistosoma*, whereas *Moniezia* and *Eimeria* were the representative of cestode and protozoan parasites (Table 1).

**Table 1: Endoparasites encountered in cattle in Gedarif State during February to October 2010**

Location	Gedarif Center (%)	Gadarif east (%)	El Fawn west (%)	El Gallabat east (%)	Gallabat west (%)
Species					
<i>Oesphagostomum radiatum</i>	0.0	0.0	0.0	4.6	4.5
<i>Chabertia ovina</i>	0.0	0.0	0.0	4.6	4.5
<i>Ascaris</i> spp.	0.0	0.0	0.0	5.6	4.5
<i>Ostertagia</i> spp.	0.0	0.0	10.0	2.8	1.9
<i>Trichuris</i> spp.	0.0	0.0	0.0	2.8	0.0
<i>Trichostrongylus</i> spp.	0.0	0.0	0.0	2.8	4.5
<i>Fasciola gigantica</i>	0.0	0.0	0.0	1.9	4.5
<i>Schistosoma bovis</i>	0.0	0.0	00.0	1.9	4.5
<i>Moniezia</i> spp.	0.0	0.0	0.0	1.9	0.0
<i>Eimeria</i> spp.	66.7	66.7	30.0	36.4	50.0

The numbers of the eggs in these samples indicated heavy worms burdens during the rainy season and consequently more animals become infected during the same season (Fig. 1).



**Fig. 1: Number of infected animals in nine months in Gedarif State**

### Discussion

In this investigation, the protozoan parasites represented a high proportion of infection in adult cattle (62.0%). These animals may serve, however, as a source of infection for young calves in the herd (Radostits *et al*, 2007). It is interesting to note that mixed infections, in these animals, with nematodes parasites and protozoa is quite common. In this study, El Gallabat east showed the highest parasitic infection because of the presence of big population of animals in this area especially during the rainy season. These findings are in agreement with those of Al-Shaibani *et al* (2008) who have showed that the rainfall and high relative humidity are important factors in establishing infections with gastrointestinal parasites. The low trematode and cestode infection may be due the use of anthelmintics or unsuitable environmental condition.

The clinical disease is usually intensified with an increased in numbers of oocysts and/or eggs ingested and enhanced by failure of the immune response, deprivation of feed and water and shipping or transportation. In conclusion the animals should be dewormed to reduce their parasitic burdens to minimum as well as prohibited from grazing in faeces-contaminated pasture. Anthelmintics and anticoccidial drugs should be used to prevent build up of parasitic infection.

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