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Gastrointestinal Parasitic Infections in Mithun in Organised Farm

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ABSTRACT

A total of 62 numbers of faecal samples of mithuns were collected from National Research Centre on Mithun, Jharnapani, Medziphema, and Nagaland during the year 2011-12, for detection of gastrointestinal (GI) parasitic infections, using standard techniques. Out of 62 faecal samples examined, 18 (29.03%) faecal samples were found positive for GI parasitic infections. The eggs of Strongyle spp. and oocysts of *Eimeria* spp. were recorded in 24.19% and 8.06% mithuns, respectively. Mean faecal egg count (FEC) of infected mithuns was 103.55. No cestodes and trematodes eggs were recorded in this study. It can be concluded from this study that a lower percentage of mithuns maintained in this farm suffers from GI parasitic infections, but lower faecal egg counts have been observed in infected animals as a result of regular deworming. So, mithun rearers should practice regular deworming to control GI parasitic infections.

Keywords: Gastrointestinal, Parasite, Mithun

INTRODUCTION

Mithun (*Bos frontalis*) is considered as 'Cattle of Hilly Region' (Shisode et al. 2009). Mithun plays an important role in hill agriculture by providing meat, milk and hide. They can also be used for ploughing purpose (http://www.worldvet.org/node/5122). Unlike other animals, mithun is unique species of the north east in the sense that they are ceremonial animals and associated with socioeconomic status of the tribal people of north-east India. As per livestock census (2007), total population of mithun in India is 2,64,279 which are distributed in Arunachal Pradesh (82.84%), Nagaland (12.63%), Manipur (3.79%) and Mizoram (0.73%). Like other animals, mithuns also suffers from bacterial, viral and parasitic diseases (Rajkhowa et al. 2003, 2004a, 2004b, 2005; Chamuah et al. 2009a, 2009b). Gastrointestinal (GI) parasitic infections in mithuns have been reported to cause mortality and morbidity (Chamuah et al. 2013). GI parasitic infections in animals may vary from time to time depending upon the climatic conditions of the area, availability of infective stages of the parasites in the pasture and managemental practices. Keeping in view of the above, present study was undertaken to know the GI parasitic infections in mithuns in an organised farm.

MATERIALS AND METHODS

In the present study 62 faecal samples of mithuns were collected from National Research Centre on Mithun, Jharnapani, Medziphema, Nagaland during the year 2011-12, to know the prevalence of gastrointestinal parasitic infections. Faecal samples were collected randomly and parasitological examinations of these faecal samples were done by direct smear, sedimentation, and flotation methods as per standard techniques (MAFF 1986). To know the eggs per gram of faeces (EPG), Modified MacMaster Technique (MAFF 1986) was followed. The eggs of the helminthes were identified after observing the size and morphological characteristics of eggs (Soulsby 1986) using low and high power microscope.

RESULTS AND DISCUSSION

Out of 62 faecal samples examined, 18 (29.03%) faecal samples were found positive for GI parasitic

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infections. The eggs of *Strongyle* spp. and oocysts of *Eimeria* spp. were recorded in 24.19% and 8.06% mithuns, respectively. Mean faecal egg count (FEC) of infected mithuns was 103.55. A higher prevalence (70.27%) of intestinal parasitic infections in mithuns of Arunachal Pradesh, Nagaland, Manipur and Mizoram has been reported (Rajkhowa et al. 2005). However, in the present study a lower percentage of animals were found to be infected with GI parasites with low EPG counts due to better managements. Use of anthelmintics in this organised mithun farm might be responsible for such low grade of infections. Rajkhowa et al. (2005) reported the presence of cestode and trematode infections in mithuns of Arunachal Pradesh, Nagaland, Manipur and Mizoram. Besides, Chamuah et al. (2009a) reported the presence of cestode and trematode infections in mithuns maintained in this farm. However, in the present study, no cestode and trematode infections were recorded. This might be due to the use of anthelmintics in this organised farm and absence of intermediate hosts like snails in the area. In the present study, only the eggs of *Strongyle* spp. and oocysts of *Eimeria* spp. were recorded in this farm. Earlier studies reported presence of other nematodes in addition to *Strongyle* spp. and *Eimeria* spp. from mithun maintained in this farm as well as Arunachal Pradesh and Bhutan (Chamuah et al. 2009a; Rajkhowa et al. 2005; Tandon et al. 2005). It can be concluded from this study that a moderate percentage of mithuns maintained in this farm suffers from GI parasitic infections, but lower faecal egg counts have been observed in infected animals as a result of regular deworming. So, mithun rearers should practice regular deworming to control GI parasitic infections.

Fig. 1: Mithuns maintained at National Research Centre on Mithun, Jharnapani, Medziphema, Nagaland

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