



E-ISSN: 2320-7078

P-ISSN: 2349-6800

[www.entomoljournal.com](http://www.entomoljournal.com)

JEZS 2020; 8(1): 730-731

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Received: 10-11-2019

Accepted: 12-12-2019

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## Prevalence of nematodes of sheep in North Eastern agro climatic zone of Tamil Nadu

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### Abstract

The study about prevalence of nematodes was carried out of sheep present in the five districts (Kanchipuram, Thiruvallur, Thiruvannamalai, Vellore and Villupuram) of North Eastern Agro Climatic Zones of Tamil Nadu in the period of November 2014 to March 2015. Small scale sheep farmers were selected randomly and the sample were collected in formal saline container. It was examined for quantitative and qualitative study. FaMaCHA were used in the farms during sample collection. *Strongyle spp.* Egg was found to be predominant of gastrointestinal nematode parasites in various districts. *Trichostrongylus spp.* And *paramphistomum spp.* Also in some districts were studied. The highest faecal egg counts (FEC) were recorded in Vellore and Villupuram districts compare to other study area. Statistical analysis revealed that the FEC and FaMaCHA score were highly significant ( $P < 0.01$ ) variation between the districts. Number of positive sample also calculated. The worm counts was influenced significantly ( $P < 0.01$ ) by FEC and FaMaCHA Score. The results of this study could be used to get the idea about control gastrointestinal nematode infections in sheep.

**Keywords:** Nematodes, sheep, agro climatic

### Introduction

Sheep and goats represent an important component of the farming system; because they require smaller investment, have shorter production cycles, faster growth rate and greater environmental adaptability than cattle. In the subsistence sector farmers and pastoralists depend on sheep and goats for much of their livelihood. Parasitism is of supreme importance in many agro-ecological zones and still a serious threat to the livestock economy worldwide. Sheep are known to suffer from various endoparasites of which helminth infection are of great importance. Helminth infections remain one of the major constraints to small ruminant production in tropics. Infection with gastrointestinal nematodes is regarded as one of the important factor causing production losses of livestock (Sangma *et al.*; 2012) <sup>[1]</sup>. Therefore, the present study was conducted to find out the prevalence of helminths of sheep at North Eastern Agro Climatic Zones and to determine the effect of nutritional condition, management system and flock size of sheep, which would provide a basis for the understanding of different helminth parasites of sheep in formulating the control measures of the parasitic diseases.

### Materials and Methods

The study was conducted for a period of five months from November 2014 to March, 2015 in five districts of North Eastern Agro Climatic Zone of Tamil Nadu. Sheep of various local breeds, female below one year of age were randomly selected from small farmers. The animals were maintained under the semi-intensive management system and were released during the day for grazing and housed overnight. Traditionally, in study areas, small ruminant feeding was based on grazing with occasional supply of crop residues and household wastes. A total of 250 faecal samples of sheep were collected from 21 selected farms/flocks of small farmers in study areas. The faecal samples were collected directly from rectum of sheep. All samples were individually analyzed for qualitative and quantitative examination. Faecal egg counts (FEC) were carried out by using a modified McMaster technique (Shaibani *et al.*, 2008) <sup>[2]</sup>. FaMaCHA Scoring were done in each sheep. The data obtained from this study, namely faecal egg count (FEC), qualitative analysis of faeces and FaMaCHA score were statistically analysed.

## Results and Discussion

Qualitative coprological examination revealed that the sheep in all the districts were found positive for gastrointestinal nematodes *Strongyle* sp. and paramphistomum sp. but the number of positive sample were varied between the districts and it was directly proportional to EPG and FaMaCHA Score. The quantitative coprological examination revealed significant ( $P<0.05$ ) high EPG in sheep reared in Vellore and Villupuram district than other districts.

These low lands are characterized by a comparatively hot humid environmental situation which is favorable for the survival of the infective larval stage of most of the parasites. The study further revealed that sex of the animals showed an association with the prevalence of the parasites, it was observed that females were more infected than their counter partners. This could be due to the physiological peculiarities of the female animals, which usually constitute stress factors thus, reducing their immunity to infections, and for being lactating mothers, females happen to be weak/malnourished, as a result of which they are more susceptible to the infections besides some other reasons (Kuchai, *et al.*, 2011) [3].

Varadharajan and Vijayalakshmi 2015 [5] concluded that the infections of gastrointestinal parasites among small ruminants were most prevalent throughout the year in organized and small holding flocks in varying intensity. Hence, appropriate strategic treatment with broad spectrum anthelmintic should be practiced during the start and end of rainy season. Such treatment regime is strategic to get rid of the parasitic burden in the small ruminants and also minimizes the pasture contamination by reducing faecal egg counts.

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