

A Preliminary Note on the Geographical Distribution of Gastro-Intestinal Parasites of Sheep in North Dakota and Adjacent Areas

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DURING the past year a survey of the number and kinds of gastro-intestinal parasites of North Dakota sheep has been made. This brief report summarizes the data on the distribution of these parasites within the State and adjoining states from which material has been obtained.

The identification of the various types of parasites has been made by examining, whenever possible, the entire digestive tracts of the sheep. However, in some instances the identification has been made by examination and identification of ova found in fecal samples and in a few instances only portions of the digestive tracts of sheep have been submitted for examination.

Table I shows the areas from which samples were obtained and the types of parasites found. These data are incomplete and will have to be enlarged as more information becomes available.

There are several points which appear of significance in formulating control programs against the internal parasites of sheep. First there is a wide distribution of the stomach worms **Haemonchus contortus**

and **Ostertagia** sp. also in nearly all sheep **Trichostrongyles** and **Nematodirus** were present. **Strongyloides papillosa**, **Cooperia** sp. and **Oesophagostomum** sp. were confined largely to the Red River Valley. Another point of apparent significance was the finding of the fringed tapeworm, **Thysanosoma actinoides**, in native sheep from Hawley, Minnesota. This may indicate a gradual spread eastward of this parasite.

The anthelmintic (worm killing or worm expelling) efficiency of various drugs is higher for certain genera than it is for others. The numerous types of parasites found within the state explain to some extent the differences of opinion regarding the anthelmintic value of different treatments as expressed by veterinarians and sheepmen.

TABLE I
Distribution of Gastro-Internal Parasites of Sheep
(A plus sign designates the presence of a species, a minus sign its absence)

Origin of Sample	Haemonchus sp.	Ostertagia sp.	Strongyloides sp.	Trichostrongyles sp.	Nematodirus sp.	Cooperia sp.	Thysanosoma sp.	Moniezia sp.	Birostomum sp.	Trichuris sp.	Oesophagostomum sp.	Chabertia sp.
Ada, Minn.	+	+	+	+	+	-	-	+	+	-	+	-
Barnesville, Minn.	-	+	+	+	-	-	-	-	-	-	-	-
Bowman, N. Dak.	+	+	-	+	-	-	-	-	-	-	-	+
Buxton, N. Dak.	+	-	-	-	+	-	-	+	-	-	-	-
Casselton, N. Dak.	+	-	-	-	+	-	-	-	-	-	-	+
Davenport, N. Dak.	+	-	-	+	+	-	+	+	-	-	-	-
Durbin, N. Dak.	+	+	+	+	+	-	-	+	-	-	-	-
Fairmount, N. Dak.	-	+	-	+	+	-	-	+	-	+	-	+
Fargo, N. Dak.	+	+	+	+	+	+	+	+	-	+	+	+
Garrison, N. Dak. ¹	-	-	-	-	+	-	-	+	-	-	-	-
Glyndon, Minn. ²	-	-	-	-	+	-	-	+	-	-	-	-
Gary, Minn.	+	+	-	+	+	-	-	-	+	-	-	+
Hawley, Minn.	+	+	+	+	+	-	+	+	-	+	+	+
Hettinger, N. Dak.	+	-	+	+	-	-	-	-	-	-	-	-
Hillsboro, N. Dak.	+	+	+	+	-	-	-	-	-	-	-	-
Hope, N. Dak.	-	+	-	+	+	-	-	-	-	+	-	-
Lemmon, S. Dak.	+	-	+	+	+	-	-	-	-	+	-	-
Lisbon, N. Dak.	+	+	-	+	+	-	-	+	-	+	-	+
Lockhart, Minn.	+	+	-	+	+	+	-	+	-	-	+	-
Moorhead, Minn.	+	-	-	-	-	-	+	+	-	-	-	-
Pisek, N. Dak.	+	+	-	+	+	+	-	+	-	-	-	-
Pelican Rapids, Minn.	+	+	-	+	+	-	-	+	-	-	-	-
Price, N. Dak. ³	+	-	-	-	-	-	-	+	-	-	-	-
Sawyer, N. Dak.	-	-	-	+	+	-	+	-	-	-	-	-
Steele, N. Dak.	-	-	+	+	+	-	-	-	-	-	-	-
Wheatland, N. Dak.	+	+	-	+	+	-	+	+	-	-	-	+

¹Small piece of intestine submitted for examination.

²Gastro-intestinal tract decomposed.

³Dr. J. O. Foss from this department has previously found *Haemonchus contortus*