

Prevalence and Distribution of Gastrointestinal Nematodes on 32 Organic and Conventional Commercial Sheep Farms in Ontario and Quebec, Canada (2006 - 2008)

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Thirty-two producers from Ontario and Quebec participated in the study from spring 2006 to fall 2008. Fecal samples and pasture samples were collected monthly during the grazing season and also during the winter. The numbers of parasite eggs were determined in the feces, as well as which parasites were most prevalent. Grass samples from pasture were assessed for presence of the free-living stages of the parasites. Producers were requested not to de-worm the sheep unless there was evidence of disease or if the fecal egg counts were dangerously elevated. The results showed that there was tremendous variation from farm-to-farm in the level of parasites found. However, some strong general trends were still evident. In the spring, adult ewes had the highest fecal egg counts. On pasture, the levels of free-living larvae were low in the spring but increased through the summer - initially because of contamination from infected ewes, then later from infected lambs. Dry weather delayed this rise, while wet weather hastened its development. Infection levels in lambs tended to peak in late July and August, then declined in the fall. Other pertinent findings included the following: The most commonly identified parasites (*Teladorsagia*, *Trichostrongylus* and *Haemonchus*) can all survive the winter on pasture. Secondly, one of the management practices most strongly associated with high parasite loads was spreading manure on pasture. Lastly, organic sheep farms tended to have lower parasite counts than conventional farms.

Recommendations from this study include the following: ewes should be de-wormed before lambing in the spring, in order to prevent the egg rise around lambing. Young lambs may require preventive deworming 4-8 weeks after placement on pasture. In addition, they should ideally not be placed on spring pastures that were grazed by heavily infected sheep the previous grazing season. Finally, fecal egg counts should be monitored in lambs in July.

Data generated by this project and from the current literature have been used to develop a Handbook for the Control of Gastrointestinal Parasites of Sheep. Copies of this Handbook are available at no cost to sheep producers and veterinarians, and can be downloaded at <http://www.uoguelph.ca/~pmenzies/index.html>.