

Which gastrointestinal parasites are hiding in the herd?

A clearer parasite profile to guide your recommendations

By **Dr. Virginie Filteau**, DES, M. Sc.,
Farm Animal Medical Specialist



The hidden impact of parasitism

Gastrointestinal nematode (GIN) infections are common in grazing cattle and often go unnoticed. Even without clinical signs, parasitism can affect average daily gain, feed efficiency and, in dairy cattle, milk production. Its impact varies with animal age and exposure level, grazing conditions, and the parasites involved. With the emergence of anthelmintic resistance, knowing the parasite profile of a herd helps support more targeted control strategies.

A new tool to detect and identify gastrointestinal (GI) parasites with precision

The **Bovine GI Parasite qPCR Profile** provides a comprehensive parasite picture to better guide your recommendations. In a single test, 20 parasite targets are investigated, covering the main gastrointestinal and pulmonary nematodes, coccidia, trematodes (flukes) and protozoa.

Results are reported as Ct values and copies of genetic material per gram of feces, providing quantitative information on the relative intensity of detected targets. Combined with parasite identification, this information supports a more meaningful interpretation of the result.

Why go beyond fecal egg counts?

The eggs of most gastrointestinal strongyles are difficult to differentiate by microscopy. qPCR enables accurate identification at the genus and/or species, depending on the panel targets.

The composition of nematode and coccidia populations determined by qPCR showed good agreement with that obtained by next-generation sequencing (NGS), a molecular method used in research, for the species targeted by the panel.

From a single sample, qPCR can simultaneously detect several parasites of clinical and epidemiological interest, from *Ostertagia ostertagi* to *Dictyocaulus viviparus* and pathogenic *Eimeria* species

 GASTROINTESTINAL NEMATODES • Cooperia spp. • Ostertagia ostertagi • Trichostrongylus spp. • Nematodirus spp. • Oesophagostomum radiatum • Haemonchus spp. • Strongyloides papillosus • Trichuris spp. • Bunostomum phlebotomum	 TREMATODES • Fasciola hepatica • Fascioloides magna
 PULMONARY NEMATODES • Dictyocaulus viviparus	 CESTODES • Moniezia benedeni
	 CESTODES • Eimeria spp. • Eimeria bovis • Eimeria zuernii • Eimeria auburnensis • Eimeria alabamensis
	 OTHER PROTOZOA • Giardia duodenalis • Cryptosporidium spp.

A population medicine tool

The panel can be used in an individual animal to investigate a clinical case of suspected parasitism, or in a group-based approach using pooled samples from animals within the same group: preweaned dairy calves, heifers on pasture, cow-calf pairs or finishing cattle. In apparently healthy animals, this approach supports preventive medicine by documenting the parasite profile within a group and supporting more targeted control interventions.

How can the result influence your recommendations?

The **Bovine GI Parasite qPCR Panel** can help answer practical questions:

- Which parasites are circulating in this group?
- Which groups of animals require closer attention?
- Does the parasite profile support an antiparasitic intervention?
- When treatment failure is suspected, which parasites remain detectable?
- Does the parasite profile suggest that current control strategies should be reassessed?

Need help interpreting your results?
Consult our technical resources online.



Learn more
Biovet.ca/qbgip

When should samples be collected?

The time of sampling should be adapted to the clinical question and the herd management objectives.

- **When clinical signs are consistent with parasitism:** to support the investigation of a suspected clinical case.
- **At the beginning of the grazing season:** to establish a baseline parasite profile and identify at-risk groups.
- **During or toward the end of the grazing season:** to assess exposure acquired during the season, especially in young cattle.
- **Before treatment:** to identify the parasites present and better target the intervention.
- **After treatment:** When treatment efficacy is in question, to identify parasites that are still detected and guide further investigation.

Test information

Code: **BV0284**

Sampling

- Collect 2 g of feces per animal, in a clean, airtight container. Refrigerate. Avoid freezing.
- Submit samples to the laboratory ideally within 24-48 hours; maximum storage time up to 7 to 10 days.
- Samples may be tested individually or pooled. For pooled testing, group comparable animals based on age, production stage, or pasture group
- Feces may be collected directly from the rectum or from the ground, provided they are fresh.

One sample • 20 parasite targets • better informed recommendations

References

1. Beef Cattle Research Council (BCRC). (June 2023). Parasites - Internal. BeefResearch.ca. <https://www.beefresearch.ca/topics/parasites-internal/>
2. Charlier, J., Höglund, J., Morgan, E. R., Geldhof, P., Vercruysse, J., & Claerebout, E. (2020). Biology and Epidemiology of Gastrointestinal Nematodes in Cattle. *Veterinary Clinics of North America: Food Animal Practice*, 36(1), 1–15.
3. Craig, T. M. (2018). Gastrointestinal Nematodes, Diagnosis and Control. *Veterinary Clinics of North America: Food Animal Practice*, 34(1), 185–199.
4. De Seram, E. L., Uehlinger, F. D., de Queiroz, C., Redman, E. M., Campbell, J. R., Nooyen, D., Morisset, A., Pollock, C. M., Ekanayake, S., Penner, G. B., & Gilleard, J. S. (2023). Integration of ITS-2 rDNA nemabiome metabarcoding with Fecal Egg Count Reduction Testing (FECRT) reveals ivermectin resistance in multiple gastrointestinal nematode species, including hypobiotic *Ostertagia ostertagi*, in western Canadian beef cattle. *International Journal for Parasitology: Drugs and Drug Resistance*, 22, 27–35.
5. Hildreth, M. B., & McKenzie, J. B. (2020). Epidemiology and Control of Gastrointestinal Nematodes of Cattle in Northern Climates. *Veterinary Clinics of North America: Food Animal Practice*, 36(1), 59–71.
6. Savard, C., Redman, E. M., Rodriguez-Olivera, Y., Jimenez Castro, P. D., Leutenegger, C., & Gilleard, J. S. (June 21 2025). A diagnostic multiplex qPCR panel for the detection and identification of gastrointestinal parasites in cattle [Convention Presentation]. 2025 AAVP Annual Meeting