Fact Sheet: Bovine Giardiasis

P2f Infectious Diseases

August 2025

Bovine Giardiasis

Giardiasis is gut illness that affects calves (especially under 8 weeks), lambs, and humans. Infected calves may show no symptoms, or have mild scours, reduced weight gains or ill thrift.

It is caused by a parasite (protozoa) that infects the small intestine - *Giardia duodenalis* (also known as *G. intestinalis* or *G. lamblia*).

It is spread between animals as the parasite passes out in manure as cysts, which survive in the environment and infect other cattle when swallowed.

Species affected

Calves and lambs are the most likely to be affected by Giardiasis.

Severity

The severity of symptoms varies by age and strain (assemblages A, B, E). Studies show negative effects on growth. Treatment reducing cyst shedding improves weight gain in calves.

Transmission

The parasite is spread via the faecal–oral route through ingestion of infective cysts. Transmission occurs through contaminated water, surfaces, and direct contact with infected animals.

Laboratory detection

Common diagnostic tools include coproantigen ELISA, microscopy, direct immunofluorescence, and PCR.

Treatment and control

Treatment with fenbendazole is effective. Control relies on hygiene: cleaning and disinfecting pens, removing manure, allowing empty periods, and minimizing contact with shedding animals. Coccidiostats are not effective.

Key points

- Bovine Giardiasis is a protozoan parasite that infects the small intestine of calves, lambs, and humans.
- Symptoms are often mild but it can cause scours, poor growth, and ill-thrift.
- It is spread via manure; cysts can persist in the environment.
- Diagnosis is by ELISA, microscopy, immunofluorescence, or PCR.
- Treat with fenbendazole; control through hygiene and biosecurity.
- It is unclear whether *G. duodenalis* can be transmitted from cattle to humans; more research is needed on transmission and prevalence.

Microbial surveillance in dairy cattle

This series of fact sheets has been prepared for cattle vets. It covers a range of microbes that were identified by Dairy UP team in samples collected from cattle on NSW dairy farms in 2023 and 2024. As many of these viruses are new, and knowledge about them is still emerging, we have collated current knowledge as a handy reference.

About Dairy UP

Dairy UP is a research and development program to help NSW farmers unlock the potential of their dairy businesses. Led by the University of Sydney's Dairy Research Foundation, Dairy UP is delivered through NSW DPIRD, Scibus, Dairy Australia, and the University of Sydney.

Zoonotic potential

G. duodenalis is an emerging zoonotic pathogen. Assemblage A poses the greatest risk for human infection.

Research gaps

Unclear clinical impact in cattle, limited data on assemblage distribution, zoonotic transmission dynamics, and molecular diversity. More studies are needed on epidemiology and risk factors.

References

Taghipour A, Sharbatkhori M, Tohidi F, Ghanbari MR, Karanis P, Olfatifar M. Global prevalence of Giardia duodenalis in cattle: A systematic review and meta-analysis. Prev Vet Med. 2022;203:105632.

Hoar BR, Paul RR, Siembieda J, Pereira MG, Atwill ER. Giardia duodenalis in feedlot cattle from the central and western United States. BMC Vet Res. 2009;5:37. doi:10.1186/1746-6148-5-37.

McAllister TA, Olson ME, Fletch A, Wetzstein M, Entz T. Prevalence of Giardia and Cryptosporidium in beef cows in southern Ontario and in beef calves in southern British Columbia. Can Vet J 2005;46:47–55.

Hailu M, Asmare K, Gebremedhin EZ, Sheferaw D, Gizaw D, Di Marco V, Vitale M. Cryptosporidium and Giardia infections in dairy calves in southern Ethiopia. Parasite Epidemiol Control. 020;10:e00155.

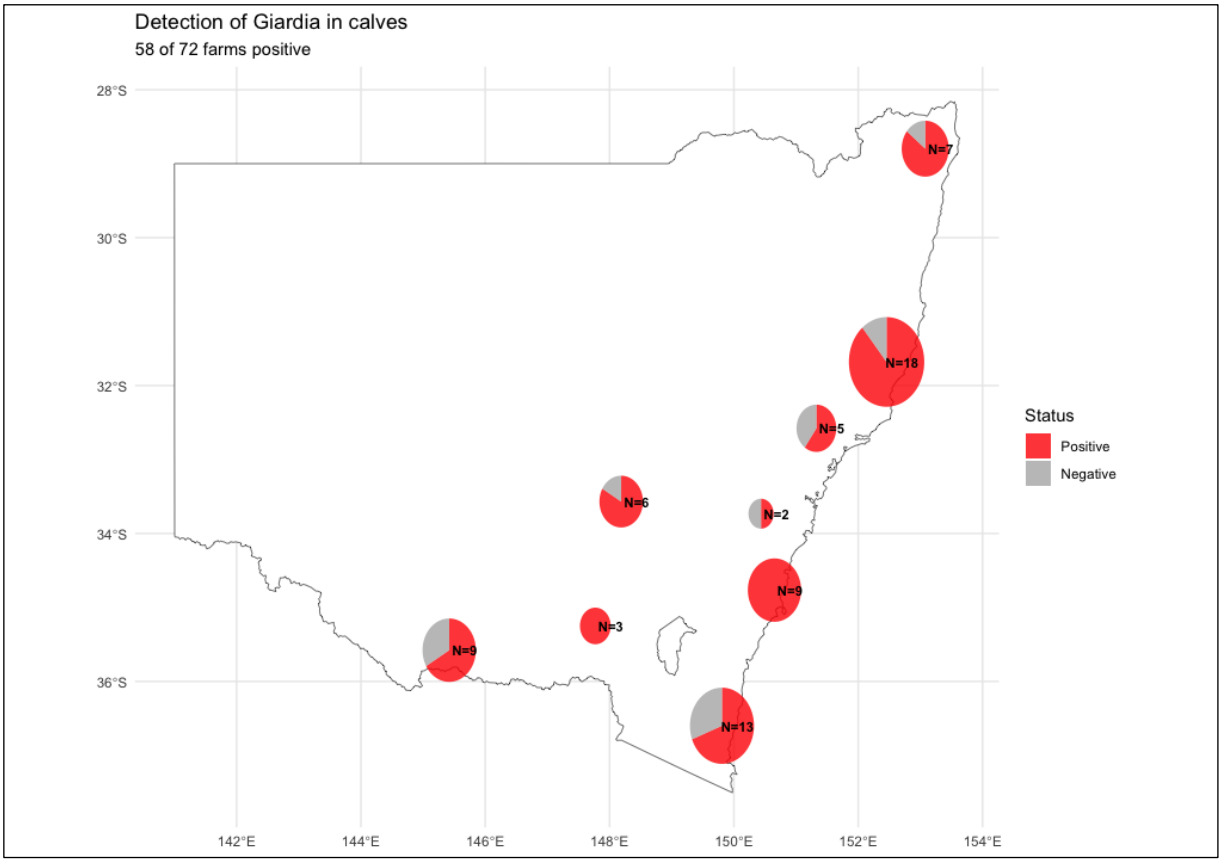
Gillhuber J, Pallant L, Ash A, Thompson RCA, Pfister K, Scheuerle MC. Molecular identification of zoonotic and livestock-specific Giardia-species in faecal samples of calves in Southern Germany. Parasites Vectors. 2013;6:346.

Geurden T, Vanderstichel R, Pohle H, Ehsan A, von Samson-Himmelstjerna G, Morgan ER, Camuset P, Capelli G, Vercruysse J, Claerebout E. A multicentre prevalence study in Europe on Giardia duodenalis in calves, with molecular identification and risk factor analysis. Vet Parasitol. 2012;190:383–390.

Asher AJ, Hose G, Power ML. Giardiasis in NSW: Identification of Giardia duodenalis assemblages contributing to human and cattle cases, and an epidemiological assessment of sporadic human giardiasis. Infect Genet Evol. 2016;44:157–161.

More info

Project lead
Dr Barbara Brito Rodriguez
email: barbara.britorodriguez@dpi.nsw.gov.au



DairyUP
Unlocking potential

Delivery organisations

The University of Sydney – Dairy Research Foundation | NSW Department of Primary Industries | Scibus | Dairy Australia

Partner organisations

nsw Growing the best | eastAUSmilk | Dairy NSW / Dairy Australia | AFMH | Leppington Pastoral Company Pty Ltd | NSW Local Land Services | Norco

Additional program supporters, collaborations or partnerships

Charles Sturt University | DairyBio | DataGene | Eagle Direct | Entegra
Macquarie University | NSW EPA | smaXtec | UC Davis | University of Technology Sydney

Thank you to the following organisations for specific funding for this project

McGarvie Smith INSTITUTE | Australian Government – Australian Research Council | UTS