The University of Guelph

MSc / PhD PROGRAM IN VETERINARY PARASITOLOGY & EPIDEMIOLOGY
Dept Pathobiology, University of Guelph

Research project examining a tool to select sheep for immune response to gastrointestinal nematode parasites

A 2 year MSc / 3-year PhD program in parasitology and epidemiology in the Departments of Pathobiology and Population Medicine, Ontario Veterinary College (OVC), University of Guelph, is open for applications. The program will commence September 1st, 2021, depending on availability of a suitable candidate. The area of study is parasitology and epidemiology. The title of the project is “Utility of the carbohydrate larval antigen (CARLA®) saliva test to lower the risk of gastrointestinal parasitism in Ontario sheep flocks” In addition to faculty in the Departments of Pathobiology and Population Medicine, faculty and staff in the Department of Animal Biosciences, Ontario Agriculture College, and the Ontario Ministry of Agriculture, Food and Rural Affairs will be participating in the project.

Gastrointestinal parasitism in sheep is a significant constraint to production on pasture and requires a multi-faceted approach for long-term sustainable control; one such approach is to select sheep that are better able to immunologically manage parasite infection (i.e. genetic resistance). One potential selection tool is the CARLA Saliva Test® (AgResearch, New Zealand), which measures antibodies produced by sheep to the infective stage of parasites. In recent work carried out by researchers at the University of Guelph on one sheep flock in southern Ontario, ewe lambs with medium-to-high CarLA levels (MH-CarLA) had lower parasite fecal egg counts (FEC) than sheep with low CarLA levels. This project will expand this work by evaluating the utility of the CarLA test in a number of flocks and breeds. By following replacement ewes over two grazing seasons, it will determine if MH-CarLA ewe lambs, by comparison to those with lower CarLA levels, have lower parasite levels, and are more likely to give birth to offspring with higher CarLA levels, better growth characteristics and lower FEC in their first grazing season. The data obtained by this project will help validate the performance of the CarLA Saliva Test® under Ontario grazing conditions. In turn, this will facilitate transfer of the test from New Zealand to a diagnostic laboratory in Ontario.

Applicants must possess a relevant graduate qualification, and meet the academic standards for admission to the Faculty of Graduate Studies at the University of Guelph. The applicant should have a very strong background in basic statistics and animal biology, with a keen interest in epidemiology, small ruminant health management, and veterinary parasitology. Competency in basic computer programs (e.g. word processing, search engines, graphics presentation) is required. Previous experience with statistical software packages such as R, SAS or STATA is an asset.
The stipend for this program is Canadian $30,000 per year, and opportunities to increase the stipend can be pursued, depending on the candidate’s academic performance.

Candidates are invited to submit their full curriculum vitae (CV) and a cover letter with a statement of goals and an explanation of their motivation for applying for this project. Three (3) letters of reference will be required for the formal application. Initial submissions of a CV, cover letter and specific questions about this particular PhD program opportunity, should be directed by email to Dr. Andrew Peregrine, Dept of Pathobiology, at: aperegri@uoguelph.ca or Dr. Cathy Bauman, Dept of Population Medicine, at: cbauman@uoguelph.ca. The deadline for submissions is Friday, May 14, 2021, or until a suitable candidate is found.

General queries about graduate studies in the Department of Pathobiology should be directed to Ms. Jessie Beer, Graduate Program Assistant, Ontario Veterinary College, University of Guelph, Guelph, Ontario, N1G 2W1, Canada; e-mail: beerj@uoguelph.ca) or may be answered by visiting https://ovc.uoguelph.ca/pathobiology/graduate-studies.