

Proposal to Determine the Prevalence of *Coxiella burnetii* Infection in Sheep Flocks and Goat Herds in Ontario and Their Farm Workers

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Background: *Coxiella burnetii* (*C. burnetii*), the causative agent of Q-fever is an important and reportable zoonotic infection. It is known to cause abortion and stillbirth in animals, and can cause severe debilitating disease in humans typified by pneumonia, fever, malaise which if not properly treated, may become chronic. Most outbreaks in humans have been associated with infection in small ruminants. Control of this infection is important to protect the rural community and assure the safe and healthy growth of the small ruminant industries.

Objectives:

1. Determine the prevalence of *C. burnetii* infection in Ontario sheep flocks and goat herds;
2. Determine the sero-prevalence of *C. burnetii* infection in farm workers on sheep and goat farms in Ontario; and
3. Examine specific risk factors and outcomes of animal health and productivity in sheep and goat farms infected with *C. burnetii*.

Sampling: Approximately 150 sheep flocks and goat herds will be randomly selected and visited in 2010 – 2011. Thirty-five randomly selected animals will be sampled per farm. Adult ewes and does that have given birth in the previous 12 months will have blood drawn for titres to *C. burnetii*, and a questionnaire will be administered to determine risk factors and outcomes of infection in the animals. Farm workers that care for the animals will be asked to have a blood sample taken for serological status to Q-fever and a questionnaire will determine potential risk factors and outcomes of infection in humans. Data will be analyzed to determine how common and important this organism is in sheep and goat production in Ontario. This information will be used to develop strategies for the control of Q-fever in sheep and goats, and the people that care for them.

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