

## A Survey of Risk Factors Associated with Lamb Carcass Condemnation due to *Cysticercus ovis* Infection

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**Background:** *Cysticercus ovis* is the intermediate stage of the canine tapeworm, *Taenia ovis*, which produces cystic lesions in the muscle of sheep. If numerous, these lesions can result in condemnation of the entire carcass. In recent years, abattoir data has revealed a significant increase in the number of lamb condemnations due to *C. ovis* infection in Canada. The rise in carcass condemnations due to *C. ovis* suggests that the prevalence of this infection on Canadian sheep farms is likely increasing. Considering the financial consequences associated with lamb carcass condemnations due to *C. ovis* infection, it is essential that the management factors putting a farm at risk for *C. ovis* infection are identified. Understanding these factors (i.e. dead-stock practices, farm dog management, and wild canid predation) will allow for the development of an effective control and eradication program for Canadian sheep flocks.

**Objectives:**

1. To determine the distribution of farms in Canada that have had carcass condemnations due to *C. ovis*; and
2. To determine on-farm risk factors associated with carcass condemnation due to *C. ovis* infection in slaughtered animals.

**Sampling:** When a lamb (or ewe) carcass is condemned due to *C. ovis* infection at an Ontario provincially-inspected abattoir, the CSIP tag from that animal is collected. These animals represent case farms. On the same day, at the same plant that had a carcass condemned, the CSIP tags from five clean animals are collected at random. From these five tags, two are randomly selected to represent control farms. Therefore, for each case farm, there are two control farms matched by time and abattoir. With the aid of the Canadian Sheep Federation, a trace-back is done on each animal to identify its farm of origin. The producer is then contacted, and a questionnaire is administered.

**Results:** To date, the CSIP tags of animals condemned in Ontario because of infection with *C. ovis* have originated from Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia. Although once thought to be an issue only in western Canada, the data suggests that endemic transmission of *C. ovis* is now occurring in multiple provinces including Ontario. A preliminary descriptive look at the data reveals that of those producers with domestic dogs, 84% deworm them at least once per year. Of those who are deworming however, only 39% are using a product they know to be effective against *Taenia ovis*. Additionally, 63% of producers report scavenging of dead-stock by wild canids (primarily coyotes), while 33% of producers report scavenging by their own domestic dogs. Although preliminary, the data suggests that the opportunity for transmission of *C. ovis* exists on many Canadian sheep farms.

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