



Ontario Animal Health Network (OAHN)  
Small Ruminant Expert Network  
Quarterly Producer Report – Winter 2017

Oct-Dec 2017

Report #15

## Highlights

- Q4 Surveillance Summary
- *Campylobacter* Abortions
  - Resistance to Antibiotics
- Drug Residue Violations
- Update—Small Ruminant Adult Mortality Project
- Small Ruminant Disease Updates
  - Scrapie
  - Q fever—Chile

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## Q4 Surveillance Summary

### Clinical Impressions Survey

Practitioners surveyed in the fourth quarter of 2017 indicated that the top clinical issues in young stock were **pneumonia, coccidiosis, stillbirths, and birth defects.**

The main clinical findings for adult sheep and goats were **abortion, caseous lymphadenitis (CLA), pregnancy toxemia, and lice.**

### Animal Health Laboratory Data

The following data highlights information from submissions to the provincial veterinary laboratory.

Sheep Cases: 22 full body postmortems and an additional 51 cases involving tissue samples.

RESPIRATORY ISSUES	REPRODUCTIVE ISSUES	OTHER
<ul style="list-style-type: none"> <li>• pneumonia cases increased this quarter</li> <li>• 4 cases of lung abscesses due to bacterial causes (2 of which were due to <i>Corynebacterium pseudotuberculosis</i> (CLA))</li> </ul>	<ul style="list-style-type: none"> <li>• abortion cases increased this quarter compared with previous years</li> <li>• 2 cases <i>Coxiella burnetii</i> (Q fever)</li> <li>• 2 cases <i>Toxoplasma</i></li> <li>• 1 case <i>Listeria</i></li> <li>• 3 cases due to other bacterial infections</li> <li>• 1 case of Cache Valley virus, with other cases suspected (sent for testing)</li> </ul>	<ul style="list-style-type: none"> <li>• 2 cases of copper toxicity</li> </ul>
		<ul style="list-style-type: none"> <li>• 2 cases of nasal tumours</li> </ul>
		<ul style="list-style-type: none"> <li>• the number of positive maedi visna test results was similar to the higher levels noted the previous quarter</li> </ul>

Goat Cases: 25 full body postmortems and an additional 47 cases involving tissue samples.

RESPIRATORY ISSUES	REPRODUCTIVE ISSUES	OTHER
<ul style="list-style-type: none"> <li>• pneumonia increased this quarter</li> <li>• 1 CLA pneumonia</li> <li>• 9 bacterial pneumonia</li> </ul>	<ul style="list-style-type: none"> <li>• abortion cases increased this quarter</li> <li>• 4 <i>Coxiella burnetii</i> (Q fever) (one with <i>Listeria</i> as well)</li> <li>• 1 <i>Chlamydia abortus</i></li> <li>• 1 <i>Campylobacter jejuni</i></li> </ul>	<ul style="list-style-type: none"> <li>• 4 cases of enterotoxemia</li> </ul>
		<ul style="list-style-type: none"> <li>• 1 case <i>Listeria</i></li> </ul>
		<ul style="list-style-type: none"> <li>• Johne's and CAE testing and positive test results remained static</li> </ul>
		<ul style="list-style-type: none"> <li>• increase in the number of scrapie tests performed (21) -all were negative</li> </ul>



## REMINDERS

1. It is important that you inform your veterinarian when any individual disease occurs at a greater frequency than what you consider “normal” for your flock or herd. Call your veterinarian so that any testing can be as accurate as possible. The longer a carcass sits before being submitted, the lower the chance of a diagnosis.
2. It is important to keep placenta for veterinary review/sampling in any abortion case. Make sure the placenta is as clean as possible and keep somewhere cool and protected until your veterinarian arrives. Wear gloves and wash hands after handling a placenta as it may contain bacteria that can cause disease in humans (zoonotic).

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## Campylobacter Abortions – Emerging Resistance to Antibiotics

*Chlamydia abortus*, *Coxiella burnetii*, *Campylobacter spp.* and *Toxoplasma gondii* are the most common causes of infectious abortion in sheep and goats in Ontario. These agents not only cause abortion but also cause fetal death, mummified fetuses, stillbirths, and weak lambs/kids that rarely survive the first week of life. These organisms are also zoonotic, which means they can transmit from animals to humans and cause infection. Oxytetracycline and chlortetracycline have and are commonly used by veterinarians and producers for the treatment and prevention of abortions. **However, *Campylobacter jejuni*-associated abortions are increasingly showing resistance to the tetracycline class of antibiotics.**

*Campylobacter fetus* subsp. *fetus* was historically the main cause of *Campylobacter*-associated abortions in sheep in Ontario and was not found to be a common cause of abortions in goats. However, *C. jejuni* is now isolated more frequently from both sheep and goat abortions. In 2012, a study at the AHL on 20 *Campylobacter* spp. isolates from sheep abortions found that all 12 *C. jejuni* isolates were resistant to oxytetracycline and chlortetracycline. In 2017, a *C. jejuni* isolate from a goat abortion case was the first report of a highly pathogenic and oxytetracycline resistant clone in Canadian livestock. Since then, more cases have been identified in goats and this could be an important emerging cause of abortion in both sheep and goats in the future. Its spread is likely by carrier animals but also birds, most likely carrion eating birds. This emphasizes the need for biosecurity and proper deadstock management.

**KEY TAKE AWAY:** Make sure a culture and sensitivity testing is performed on abortion cases, particularly if *C. jejuni* has been diagnosed on your farm. Using chlortetracycline and oxytetracycline without testing can be a waste of money and time, have little effect on the treatment or prevention of abortions, and can also increase antimicrobial resistance on your farm. Your veterinarian can help you interpret susceptibility reports and choose an appropriate antibiotic.

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## OMAFRA Meat Inspection – Positive Carcass Residues by Drug Class in Sheep and Goats, 2017



Drug Class	Sheep	Goats	Total
Tetracyclines	8	11	19
Sulfonamides	5	0	5
NSAIDs	1	0	1
<b>Total</b>	<b>14</b>	<b>11</b>	<b>25</b>

A question frequently asked by producers is: "Are milk and meat withdrawal times for sheep and goats the same as for cattle?" The answer is NO! Drug withdrawal times for products used in an extra-label manner are based on maximum residue limits (MRLs) and scientific studies, and take into account government testing. If no MRL has been established for a drug in a particular species OR for milk/tissue, then ANY amount detected in milk/tissue constitutes a residue violation. This is one of the reasons why sheep, and particularly goat withdrawal times, are longer than cattle withdrawal times.

**REMINDER:** As antibiotic inhibitor testing continues to evolve and more products can be detected, producers must be extra diligent in preventing residue contamination of milk and meat. Contact your herd/flock veterinarian for more information about withdrawal times.

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## Research Update – Small Ruminant Adult Mortality Project

Jeanette Cooper, OVC



The project "Distance support for on-farm investigation of adult small ruminant mortalities" is designed to encourage producers and veterinarians to perform postmortems on adult goats and sheep that die on-farm unexpectedly or for unknown reasons. Improved postmortem techniques achieved through this project will result in better diagnostic outcomes and enhanced disease surveillance in Ontario's small ruminant populations. **Improved diagnostic information will also allow veterinarians and producers to create tailored health management strategies to decrease goat and sheep mortalities and therefore, increase producer profits.**



The project has thus far accepted postmortems from 30 goats and 24 sheep with unknown causes of death. Diagnoses in goats include: caprine arthritis encephalitis (CAE) (6), pneumonia (4), clostridial disease (4), copper toxicity (2), endometritis (2), dental disease (1), Johne's disease (1), esophageal damage (1), tumour of the thymus (1), chronic bloat (1) and bacterial infection of the intestine (1). Diagnoses in sheep have included: nasal tumours (5), copper toxicity (4), hemonchosis (2), gastrointestinal parasitism (2), caseous lymphadenitis (CLA) (2), dental disease (2), monensin toxicity (1), endometritis (1), polioencephalomalacia (1), heart failure (1) and pituitary tumour (1). Only 8 cases have remained undiagnosed.

Many of the diagnoses, both in goats and sheep, can have impacts on overall herd/flock health, with the potential to cause multiple mortalities. The diagnostic information gained from a proper postmortem can provide the basis for the design of prevention and control strategies by veterinarians and producers to prevent further losses. **A further 100 cases are still needed. The project runs until August 31<sup>st</sup>, 2018.** Talk to your flock/herd veterinarian to submit a case to the project.

## Small Ruminant Disease Updates from North America



**Goat Scrapie, Manitoba** – As a result of further trace-outs from the ongoing scrapie disease investigation of a heavily infected goat herd in Manitoba, the CFIA has confirmed scrapie in two additional goat herds both on January 16. Both premises were located in Manitoba and one was non-commercial with no further animals on the premises. Disease control procedures required for classical scrapie are being implemented by the CFIA on these farms.

**Q Fever, Chile** – Chilean authorities have confirmed that 43 people in the south region of the country were infected with Q fever, 20 requiring hospitalization due to the severity of the symptoms. The infection was first detected in workers on a dairy farm in October of 2017, where both cattle and sheep were milked. Cases have now been reported in 3 adjacent regions of Chile and according to updated numbers, there are 167 cases classified as “suspicious and compatible with Q fever.”

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