

Development of a Responsive Surveillance Network for Small Ruminant Industries and Veterinarians

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Ministry of Agriculture,
Food and Rural Affairs



Ontario's Small Ruminant Industry

• Background

- SR industry is expanding
- low veterinary involvement
- poor uptake of biosecurity principles
 - *Coxiella burnetii*, Toxoplasma, Chlamydia
 - Johne's disease, CAE, MVV
 - enterotoxemia, listeriosis, mastitis, youngstock mortality issues
 - welfare issues
 - suitability for transport, sale, slaughter



Ontario

- 1,076,395 km²
- 13.5 million people
- 324,000 sheep
 - ~2900 meat farms
 - ~75 dairy farms
- 120,000 goats
 - ~250 meat farms
 - ~279 dairy farms
- 110 members in SRVO

Ontario Animal Health Network

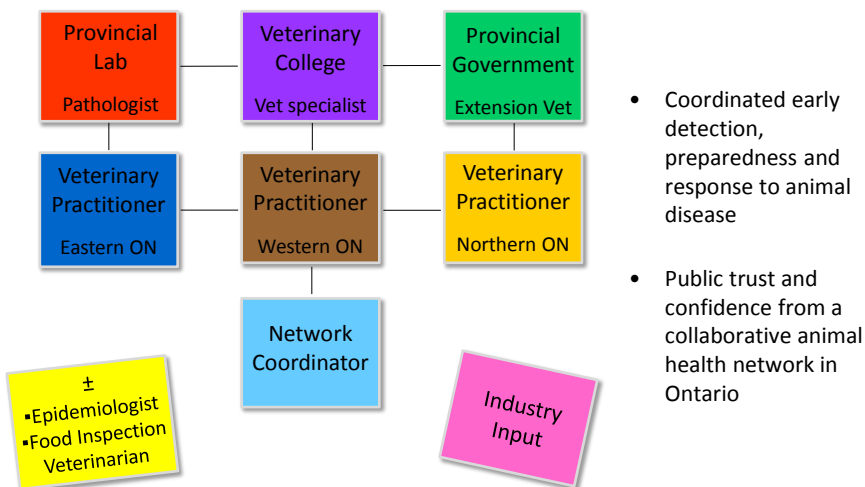
- Part of the larger **Disease Surveillance Plan**



– federal and provincial government funding

- formation of 10 species networks

OAHN Small Ruminant Network



OAHN Small Ruminant Network

1. Quarterly teleconference calls to review:

- practitioner clinical impressions survey
- laboratory submissions data
- provincial slaughter condemnation data
- veterinary updates / concerns
- discuss any feedback received from industry re: health/welfare issues



- identify topics for veterinary & producer reports

OAHN Small Ruminant Network

2. Veterinary & Producer Reports

- distributed electronically
 - + Facebook, Twitter posts
- information further developed into Podcasts
 - lameness, *Cysticercus ovis*, postmortem series
- guide extension / outreach
 - factsheets, presentations, workshops, CE meetings, research
 - Cache Valley virus
 - Captive Bolt Workshops



OAHN Small Ruminant Network

This report is a professional communication for practicing small ruminant veterinarians, compiled by the OAHN Small Ruminant Network. It includes information obtained from the OAHN quarterly survey of clinical impressions provided by practicing veterinarians in Ontario, and laboratory data from the Animal Health Laboratory.

Ontario Animal Health Network (OAHN)
Small Ruminant Expert Network
Quarterly Veterinary Report – October to December 2016

Oct-Dec 2016 Report #11

Highlights

- Q4 Surveillance Summary
- Chloridium perfringens type D in Dairy Goats
- Iodine Deficiency Outbreak
- Case of Clostridium perfringens type D in Dairy Goats
- Targeted Selective Therapy with Fluorom

Q4 Surveillance Summary

Clinical Impressions Survey

In lambs and kids, practitioners surveyed indicated that the top clinical issues for the quarter dealt with pneumonia, coccidiosis, neonatal diarrhea, stillbirths and neonates born weak. The main clinical findings for adult sheep and goats were caecous lymphadenitis, lameness, pneumonia and hemoneurosis.

AHL Data

Stacc, Clostridium perfringens type D enterotoxemia continues to be diagnosed as a significant problem in mature goats, predominantly milking does. Seven postmortem cases, often involving multiple animal submissions, confirmed C. perfringens type D by genotyping as the cause of death. One additional case was identified by fecal submission only. OAHN serology submission numbers were similar to those recorded in 2015 Q4 and 2016 Q3, but were reduced compared to the peak in 2016 Q3 which recorded a high of 3177 samples (10.1% suspicious or positive). This quarter, only 3.3% of the 2487 samples tested positive or suspicious. Seven abortion cases were submitted: 5 were idiopathic, 1 case of Chlamydia abortion and 1 case of goatie were identified. One case of 8 equine fetuses had one malformed fetus that tested negative for Cache Valley Virus (CVV) serologically. Parasitology trends are similar to those in previous quarters and previous years: fecal flotation at the lab identified coccidia most frequently, with a significant number of GI species also confirmed. Three cases of hemoneurosis were diagnosed by post-mortem examination. Five of 17 animals tested serologically for M. paratuberculosis by ELISA were positive, one additional animal tested positive by PCR. Three cases of John's disease were confirmed by postmortem examination. Six pneumonia cases had a wide variety of etiologies identified: Mannheimia hemolytica, Bacteroides melanocephalus, C. pseudotuberculosis, CAPV, 1 aspiration pneumonia and 1 case of idiopathic hypersensitivity pneumonia were diagnosed. For neurologic diseases, one case of lateral encephalitis and one case of Streptococcus gallicus meningitis/encephalitis were diagnosed this quarter. An article describing Orp, gallicus/canis was published in the March 2017 AHL Newsletter.

Stacc: Serologic testing for reovirus virus (RVV) continues to increase quarter over quarter, with a slight increase of 20% over the Q3 number. Eight percent of animals tested positive for RVV in 2016, compared to 12% positive samples in 2015. Only 2 aborted fetuses were submitted this quarter, and both were of undetermined cause. To date, there have been no submissions of malformed ovine fetuses consistent with CVV. Coccidiosis continues to be the most commonly quantified parasite identified in feces submitted to the lab. Four cases of pneumonia were diagnosed: one due to Mycoplasma ovipneumoniae, one mixed infection due to B. melanocephalus and C. pseudotuberculosis, 1 unidentified bacterial (no culture performed), and one suspected case of viral interstitial pneumonia. No cases of polioencephalomalacia, listeriosis, enterotoxemia or John's disease were identified this quarter.

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Ontario Animal Health Network (OAHN)
Small Ruminant Expert Network
Quarterly Producer Report – Winter 2016

Winter 2016 Report #11

Highlights

- Q4 Surveillance Summary
- Clostridial Disease Outbreaks in Dairy Goats
- Iodine Deficiency Outbreak
- Case of Clostridium perfringens type D in Dairy Goats
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Q4 Surveillance Summary

Clinical Impressions Survey

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Clostridial Disease Outbreaks in Dairy Goats

Cases of enterotoxemia (inflammation of both the small intestine and colon) in adult does caused by Clostridium perfringens type D have increased over the past several years. These cases tend to present differently from the classical enterotoxemia/sudden death syndrome (acute kidney disease) in sheep caused by the same bacterium. Adult does develop recurring bouts of diarrhea (usually 2-4 days duration), are dull and may have decreased appetite and milk production. More severely affected animals are dehydrated, may develop blood diarrhea, and exhibit abdominal pain and depression. Death may follow.

At postmortem examination, does are typically in good body condition, debilitated, and may or may not have external evidence of diarrhea. Lesions in the intestinal tract range from subtle to severe inflammation with hemorrhage of the small intestine and colon (Figure 1).

A recent feed change in commonly reported in dairy goat farms experiencing an outbreak of clostridial enterotoxemia. Rumen bacteria do not have time to adjust to the new ration, causing a large amount of carbohydrates to pass through to the intestines. This allows the bacteria to multiply quickly. Clostridium perfringens type D produces a toxin, which in large quantities results in disease. Changes in feeding practices and sudden changes in weather have also been associated with disease.

"A recent feed change is commonly reported in goat dairy farms experiencing an outbreak..."

Small ruminants, especially goats, are very susceptible to enterotoxemia. It is strongly recommended that all goats and sheep be vaccinated against clostridial diseases as part of any basic herd/flock health program. However, antibody levels tend to drop quickly in goats and vaccination, which means they need to be vaccinated more frequently than sheep or cattle.

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OAHN Small Ruminant Network

- Investigate issues and communicate emerging issues / trends
 - bluetongue surveillance
- Project funding / leveraging
 - Investigation of Adult Small Ruminant Mortalities
 - Prevalence & risk factors of *Toxoplasma* infection in sheep flocks & goat herds

Questions



Don Tubb – Topsy Farms

