



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

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Report #14

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Q3 Surveillance Summary

Clinical Impressions Survey

Practitioners surveyed indicated that the top clinical issues in young stock were **hemonchosis, coccidiosis and pneumonia**.

The main clinical findings for adult sheep and goats were **hemonchosis, lameness, caseous lymphadenitis, enterotoxemia, mastitis and wasting/thin animals**.

Tales from the Grave:

How Postmortems can Improve the Health of Your Flock or Herd

Jeanette Cooper, OVC



*Photos courtesy of Drs.
Amanda Topp and Talia
Fletcher*

Have dead animals and don't know why? The "Distance support for on farm investigation of adult small ruminant mortalities" project wants to help! Collecting cases since April 2017, this research project is interested in determining what diseases are killing adult sheep and goats in Ontario.

The project provides online resources for veterinarians to aid them in conducting quality postmortems on adult small ruminants that have died or been euthanized on-farm due to unknown causes. Veterinarians performing on-farm postmortems provide case samples and details to Animal Health Laboratory pathologists. Pathologists investigate potential causes of death, with **up to \$400 worth of diagnostic testing and \$175 worth of veterinary fees being funded by the project**. Diagnostic results are then provided for the veterinarians to share with the producer.

So far, the project has made diagnoses in almost all submitted cases with outcomes including, copper toxicity, nasal tumours, and hemonchosis in sheep, and pneumonia, clostridial disease, caprine arthritis encephalitis (CAE), endometritis, copper toxicity and Johne's disease in goats. Many of these diagnoses can affect the health of an entire flock or herd. Postmortem diagnostic information can allow producers and veterinarians to develop strategies to manage these diseases in the flock or herd and prevent further losses.

Interested in obtaining valuable information about your flock or herd? Postmortem cases are still being accepted! Contact your local small ruminant veterinarian for more information about joining the project!



Is Copper Toxicity a Concern in Goats?

Unfortunately the answer is yes. Though goats are reported to be three times more resistant to copper toxicity than sheep, toxicosis does occur in goats and is likely under-reported.

CLINICAL SIGNS: As in sheep, clinical signs are vague: abdominal pain, teeth grinding, elevated respiratory rates, off-feed, little to no milk, and diarrhea. Affected goats progress to recumbency (downers) followed by death. In contrast to sheep, signs such as dark rusty-coloured urine and yellow mucous membranes, are not always noted.

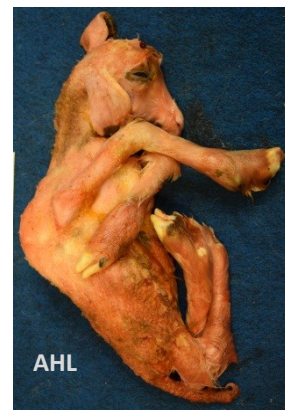
Diagnosis is usually done at postmortem, so having your vet evaluate animals that have died is very important. To confirm copper toxicosis – your vet will take kidney and liver samples and submit to the laboratory. Blood is not a reliable measure of copper toxicity risk. During the third quarter of 2017, 2 cases of copper toxicity were diagnosed at the Animal Health Laboratory. In case #1, a 3 year old Boer goat showed signs of depression for one day prior to death. On postmortem, the doe had a BCS of 3, adequate fat and pale mucous membranes. Liver copper levels were in the toxic range. In case #2, a 3 year old Nubian doe in mid-lactation showed signs of depression and mastitis for several days prior to death. On postmortem, the doe had a BCS of 4, adequate fat stores and muscle mass. Mucous membranes (mouth and eye) were yellow. Liver copper levels were high and kidney levels were in the toxic range.

SOURCES OF COPPER: mineral supplements, commercial or custom feeds, forages, copper sulfate footbaths, copper oxide wire particles used to control *Haemonchus* parasites, and water. In addition to excess copper sources, low dietary molybdenum and sulfate levels can also increase the risk of copper accumulation in the liver.

Treatment is as for sheep copper toxicity – removing the source(s) of copper in the diet and the use of a binding agent like molybdenum. Prevention of copper toxicosis in goats will depend on avoiding accidental exposure or ingestion of high levels of copper. Finding the source(s) of copper may be challenging. Though uncommon, copper toxicosis should be considered as a differential diagnosis particularly in goats with abdominal pain or those showing vague clinical signs.

Small Ruminant Disease Updates from North America

Cache Valley Virus Abortions, Ontario – In November, a set of quadruplet lambs from southern Ontario were submitted for postmortem examination to the Animal Health Laboratory in Guelph. The lambs had multiple skeletal deformities and were either born dead or immediately euthanized at lambing. On December 18th, test results came back positive for Cache Valley virus (CVV). CVV is a mosquito borne virus that causes developmental damage to the fetus's central nervous system and musculoskeletal system when the pregnant ewe is infected before 48 days of gestation. Lambs are commonly born at term and may be alive, but they may also be aborted and lesions vary in severity between lambs. The deformities can be associated with severe dystocia. Goat fetuses may also be affected by CVV but to-date, no affected goat kids have been reported in Ontario. The unusual early onset in the season of this disease suggests that CVV viral titres were very high in mosquito populations this summer and autumn. Cases are usually seen up until mid-January reflecting infection approximately 120 days previously (late August, early September). Given the mild autumn, it is possible cases may be seen later than mid-January as well. CVV should be considered as a differential diagnosis in lambs and kids born with musculoskeletal



Lamb born with flexed joints, curvature of the spine and poorly developed musculature.

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and nervous system abnormalities. There are no vaccines or treatments available to protect livestock against CVV. Work with your flock/herd veterinarian on how best to reduce the risk of fetal losses due to CVV infection.

Goat Scrapie, Manitoba – The source farm in Manitoba had a high prevalence of scrapie on depopulation. In addition, goats on 5 other farms have been diagnosed with scrapie following the CFIA's investigation of trace-out animals (4 premises in Manitoba and 1 premises in Alberta). The investigation is ongoing and there may still be trace-out or trace-in positive farms identified. No connection with Ontario has been found to date. The genetics of these depopulated goats are being examined by the CFIA and there appears to be an association of resistance with the 146 S allele in these goats (Boer and crosses). This is different than the association of resistance with the 211 Q allele detected in Saanan goats tested on scrapie infected farms in Ontario.

Epizootic Hemorrhagic Disease, Ontario – Two white-tailed deer from the London area were diagnosed with Epizootic Hemorrhagic Disease (EHD) virus serotype 2. The EHD virus is closely related to the Bluetongue (BT) virus. Both viruses are spread by blood-feeding *Culicoides* midges. Signs of BT in sheep include high fever, lameness, and oral erosions. Clinical disease in goats is uncommon or mild. Researchers at the Ontario Veterinary College are investigating the prevalence of these midges in Ontario and the potential risks of EHD and BT to livestock and wildlife. No cases of bluetongue were diagnosed in Ontario this fall.

East Asian Tick, New Jersey – The East Asian tick, also known as the longhorned tick or bush tick, was found on a farm in New Jersey. The tick has a wide host range and can be a serious pest to livestock including cattle, sheep, goats, farmed deer, and horses, as well as wildlife. The East Asian tick has been associated with several tickborne diseases. The tick has not been known to be present in the USA but it has been found on animals and materials presented for entry at USA ports.

