



INTRODUCTION:

Participants attending the meeting:

The videoconference meeting of the WeCAHN small ruminant network was held Feb. 16, 2023.

Participants attending the meeting: veterinary practitioners, laboratory diagnosticians, veterinary college faculty, and industry representatives.

Report Contents:

1. Dataset Overview
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1. Dataset Overview:

i. Interesting Cases

ii. Practitioners' Clinical Impressions Survey

ii. Laboratory data: Manitoba Veterinary Diagnostic Services Laboratory, Prairie Diagnostic Services (PDS), University of Calgary Diagnostic Services Unit (UCVM DSU).

Clinical Impressions Survey and Laboratory Data:

The clinical impressions survey is to be a simple, quick overview of diagnoses by practitioners, which does not require practitioners to extract data from their information management systems to complete.

Practitioners report, for a list of selected pathogens/syndromes how frequently they have diagnosed these pathogens over the time period in question. Additionally, they are asked whether, compared to the previous time period, their diagnosis of these

pathogens is increasing/decreasing/ or stable. For each category of disease, clinical impressions survey findings are followed by relevant laboratory data.

2. Interesting Cases

1. **Haemonchus (stomach worms):** Our practice saw a severe outbreak of stomach worms in goats on hobby farm with 3 of 5 dying.

QUESTION: What is the biggest factor involved in creating this kind of situation: knowledge/\$/vet access?

ANSWER:

- Small producers with lack of knowledge.
- Very small land base so parasites build up.
- No history of de-worming treatments since often animals are recently purchased.
- Advice from Facebook which is often very poor.

Good sources of information on de-worming:

- Dr. John Gilleard's webpage: <https://vet.ucalgary.ca/research/sheep-parasite-control/home>
- "5 star" program: <https://www.ontariosheep.org/uploads/userfiles/files/Handbook6.pdf>

2. Pneumonia and scours in goats with coccidia diagnosed at UCVM.

- History: Scouring. No recent changes, sick animals are recently weaned kids; they develop scours, lose body condition and die. Owner estimates ~ 30 have died. He has not noted respiratory signs.
- He assumed coccidia, and has tried three different drugs for this including monensin.
- The producer likely got access to three drugs before contacting their vet by using drugs they had left over from their own previous problems, or getting them from neighbours.
- The monensin, when in bulk form, is impossible to mix properly if doing it by hand for a small number of animals and animals eating parts of the ration with too high a concentration may be poisoned.
- Post-mortem findings: pneumonia, coccidiosis, heart muscle damage.

Interesting Cases, continued:

Do we see much resistance to anti-coccidial drugs?

- Veterinarians tend to see these clinical cases using antimicrobials after the fact, once disease is present. Environmental management to prevent buildup is key.
- One of the drugs used, Amprol, has high dose required for goats, so maybe the animals were not getting a full dose.
- Goats don't get on-feed as quickly as calves and lambs and so if trying to deliver a coccidiostat to very young goats, need remember this reduced feed intake when calculating the dose of in-feed medications.

3. Enzootic nasal tumor:

Q: How often do you see this?

- Generally we see it rarely in the west relative to Ontario. However incidence in the west could be increasing with increased sheep movements?
- Clinical signs: appears to be upper respiratory issues.
- The Animal Health Laboratory at Guelph did a small ruminant mortality study and identified nasal tumor fairly frequently.

4. Malignant Catarrhal Fever (MCF):

QUESTION: How often do you see this in cattle with sheep on farm?

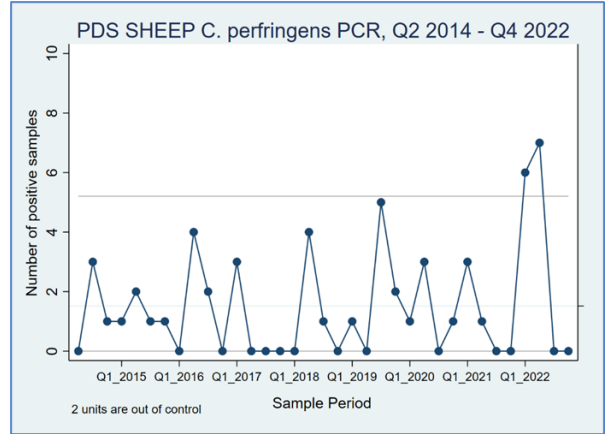
ANSWER:

- Way less frequently than we see it in **bison** with sheep on-farm.
- There was a case in Alberta of 4-H steers at a show housed with sheep and developing MCF, which resulted in changes to the way 4-H approaches commingling of sheep and cattle at shows.
- We have lots of clients who have both cattle and sheep on-farm without problems.
- Most cases involve combinations of stressed cattle and un-natural (confined) housing. People need to be aware of the risks in these situations [which are significantly different from a typical farm situation].



3. Digestive System

C. perfringens and lamb diarrhea:



Recap on 'control charts': For each of the following graphs, each data point reflects the number of positive samples or cases reported, over a 3 month period. The upper and lower horizontal lines, called control limits, are similar to statistical confidence intervals. Control charts are a simple way of presenting data collected over time. Apparent trends (e.g. increasing or decreasing frequencies of detection) over time, or individual points lying outside the control limits, suggest a need for investigation to determine whether/how significant a signal they represent.

- In contrast with earlier reporting periods in 2022 in which an increase in *Clostridium perfringens* detections was noted, PCR detections declined in Q3-4 (July – December) 2022 at Prairie Diagnostic Services, and were Stable at Manitoba VSDL.

VET PRACTICE 1: Last year we isolated a *C. perfringens* Type A in a group of 6-9 week old lambs.

VET PRACTICE 2: We occasionally encounter *C. perfringens* when there are gaps in vaccine coverage

VET PRACTICE 3: Our impression is that *C. perfringens* type A, and *E. coli* diarrhea are both more frequently diagnosed in Ontario relative to the west.

E. coli and lamb diarrhea:

- Diarrhea associated with *E. coli* was reported Commonly by one practitioner, although generally it is detected in frequently by participating diagnostic labs in sheep and goats.

QUESTION: One practitioner described seeing *E. coli* diarrhea frequently. How did this present and how do you diagnose it?

ANSWER 1: Large extensively managed flock described previously at a network meeting. They had a problem with water quality and we've done a lot to clear that up.

ANSWER 2: We see it frequently and it's largely a disease reflecting management problems e.g. general hygiene, cleanliness of watering bowls. It may also be associated with coccidiosis. However, we see more *E. coli* diarrhea associated with young lambs in fall lambing flocks.

Digestive System, continued:

Listeria infection and silage feeding:

COMMENT: We are seeing increased use of silage feeding due to:

- Difficulty in placing hay.
- Interest in total mixed rations (TMRs) and changes in using hay as feedstuff for this
- It's becoming more popular with cattle and some farms have both sheep and cattle
- Increasing price of grain

We see more cases of Listeria in sheep than cattle:

- Sheep are more susceptible than cattle.
- See it most in pregnant ewes - due to physiologic stress of late pregnancy?

We see Listeria when:

- The silage has exposure to air, e.g.
 - deer hooves puncture bag, if baled bags
 - prolonged air exposure between feedings.
- If feeding both groups, feed the cattle, who are less susceptible, first, so they get to consume the more high-risk silage, some of which has been exposed to air since yesterday.

COMMENT: Last year our practice saw over 100 cases, largely associated with one situation involving damaged silage, stressed pregnant ewes, and water in the pen and feedbunks. Smaller producers are still predominately using hay.

Management to reduce risk of Listeria infection when feeding silage:

- Try to reduce or eliminate air exposure (e.g. deer puncturing bags/ prolonged exposure of face of silage to air, between feedings).
- Understand that silage feeding to sheep may result in the occasional mortality, even with good management. In a larger flock this cost will be offset by the benefits associated.
- Feed pregnant ewes the best quality (i.e. least likelihood of air exposure) silage available, and feed lower quality silage to lower-risk groups.
- We have found four components [to improving safety of silage feeding]:
 - bring it off the field clean i.e. no dirt incorporated
 - store it properly i.e. no access allowed to deer/ravens
 - Keep the bunk clean; don't let water accumulate
 - Avoid standing water in the pen.

4. Reproductive System

- Reproductive disease was reported Rarely (N = 3) to Very frequently (N = 1) by network practitioners in Q4 2022.
- **Abortions** were reported Very frequently by one practitioner.
- **Infectious causes of abortion** (*Chlamydophila abortus*, *Campylobacter fetus*, *Coxiella burnetii*, diagnosed by PCR, appeared for Stable for sheep and goats in Q4 (data not shown).
- Sheep and goat abortions reported from pathology submissions to PDS, for which no cause was determined, remained Stable in Q4 at PDS.
- **Non-infectious infertility associated with water quality problems** was reported Very frequently by one network veterinarian.

Mastitis

- Acute and chronic mastitis were both reported Commonly and Very frequently, respectively, by one practitioner.



WeCAHN Podcast: Foreign Animal Disease Planning and Prevention for Cattle

Dr. Karin Orsel, a professor in epidemiology and infectious diseases from the University of Calgary, has some up close and personal experience with the impacts of bovine infectious diseases of cattle that currently don't exist in Canada. These foreign animal diseases, such as foot and mouth disease, are kept out of Canada only by the strength of our farm biosecurity and through the ongoing monitoring and reporting of any of signs of concern to veterinarians for further investigation.

Her experiences highlight the potential risks of international travel, and the importance of vigilance and traceability in the cattle sector to ensure the health of our cattle and the security of our food systems.

<https://wecahn.podbean.com/e/foreign->



6. Meeting Take-aways:

1. Good references for producers on deworming:

- John Gilleard webpage: <https://vet.ucalgary.ca/research/sheep-parasite-control/home>
- Paula Menzies' 5 star program: <https://www.ontariosheep.org/uploads/userfiles/files/Handbook6.pdf>

2. Problems with coccidiostat use were discussed.

- Use without veterinary involvement or prescription could result in inappropriate treatment and mixing errors. Hand-mixing of bulk monensin, for example, may result in fatal monensin poisoning.

3. Silage feeding to small ruminants requires good management to minimize the risks due to their greater susceptibility to *Listeria* infection:

- Bring it off the field clean i.e. no dirt incorporated
- Store it properly i.e. no access allowed to deer/ravens
- Minimize exposure to air e.g. plastic punctures
- Keep the bunk clean; don't let water accumulate
- Avoid standing water in the pen.