



The WeCAHN small ruminants network met Feb. 8th 2024 with veterinary practitioners, producers, provincial veterinarians, diagnosticians, and researchers in attendance, discussing the small ruminant health events of Q4 (October – December) 2023.

Interesting cases:

Data sources in this report include:

- Clinical Impressions Surveys completed by network practitioners.
- Data shared by western veterinary diagnostic laboratories: Manitoba Veterinary Services Diagnostic Laboratory (VSDL), Prairie Diagnostic Services (PDS), and University of Calgary College of Veterinary Medicine Diagnostic Services Unit (UCVM DSU).

Interesting cases

1. Lambs with joint disease and neurological signs

VETERINARIAN COMMENT: [Our practice is unsure if new, undiagnosed arthrogryposis in aborted lambs is more common recently.]

QUESTION: How often do you hear about these types of cases, or see them?

ANSWER VET 1: Clients see them mostly sporadically. Some of these lambs may make it to term, and if so [here in Alberta], Cache Valley virus is the first thing I would think of. We don't worry about getting a lab diagnosis if:

- These abnormalities are sporadic as opposed to clustered.
- There are normal siblings.



- The “rule of three” hasn't been triggered yet. I tell my clients to collect any abortions (including placenta) or abnormal lambs, bag them carefully, and freeze them. When the third one occurs, bring them all to the clinic, with the third case still fresh, for lab submission.

ANSWER 2: we tend to see this kind of thing very sporadically. We suggest they freeze the first one and let us know if/when more occur.

ANSWER 3: same for us. We're most likely to actually see them ourselves if they result in birthing problems. Most likely the owner will view these as an oddity and just record them as congenital anomaly.

ANSWER 4: similar situation for us. We are more concerned with clusters.

ANSWER 5: Our practice served a very large commercial sheep flock. Our standing SOP with them was to collect abortions including placenta, freeze them, and bring them to clinic when the number rose to 2% of ewes.



Cache Valley virus

Seroprevalence study: 47/50 sheep flocks sampled in Saskatchewan had one or more sheep positive on blood test for CVV. (Uehlinger et al. 2018 Can Vet J 2018;59:413–418).

Abnormalities associated with CVV in lambs: Of 6 scientific studies reporting abnormalities in infected lambs:

- Abnormal/stiff joints (n = 5 studies)
- Crooked back (n = 5)
- Crooked neck (n = 5)
- Brain malformations (n = 3)
- Muscle abnormalities (n = 3)

Ruleouts: other infections (e.g., border disease, bluetongue virus, bovine viral diarrhea virus), inherited genetic defects, and toxic plants (e.g., *Lupinus* spp.).

Therefore, submission of the whole fetus and placenta for diagnostic evaluation forms an important component in any investigation of fetal losses in a flock.

QUESTION: How frequently do you think clinical clusters of these syndromes (abortion/birth of lambs with congenital anomalies) happens? Commonly? Rarely?

ANSWER 1: we see an increasing number of flocks moving to adjusted lambing seasons and concurrent with that think we see more of these reports. At the moment our office (provincial industry association) hears of about half a dozen flocks per year. Seems to be more the early-lambing flocks which is likely driven by the sensitive period in pregnancy for congenital defects.

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Public notice from the Office of the Chief Provincial Veterinarian of Alberta: Cache Valley virus infection in sheep confirmed in Alberta

“The Office of the Chief Provincial Veterinarian was notified by an Alberta veterinarian in January 2024 of a confirmed case of Cache Valley Virus in a sheep flock located in Strathcona County. This mosquito-borne virus can cause fetal deaths and severe fetal malformations in ruminants. Though rare, human infections causing neurological disease and organ failure have occurred in the USA.

Cache Valley Virus has previously been detected in livestock in other Canadian provinces and in mosquitos in Alberta; however, this is believed to be the first confirmed infection in livestock in Alberta. “



2. Hindlimb deformities, focal brain inflammation associated with *Neospora* in day old lambs.

History: This lamb had mild deformities of the hindlimbs. It was otherwise in a good condition with a full stomach and a good amount of body fat. However, it was unable to rise or suck and euthanized.

Laboratory Diagnostics:

There was a focal area of damage in the brain. The spinal cord appeared normal. This makes swayback (copper deficiency) less likely, but raises the possibility of a viral cause or potentially Toxoplasmosis or *Neospora*. The Cache valley virus PCR was negative.

***Neospora caninum* PCR of the brain was positive.** Combined with the changes seen this strongly suggests a diagnosis of neosporosis in this lamb. *Neospora caninum* infections in sheep are relatively uncommon and infections in adults are usually asymptomatic. The outcome of infection on pregnancy depends on when the ewe is infected and can include fetal death, re-absorption, abortion or the birth of weak lambs. Some lambs can be born alive with severe neurological problems.

3. Lamb presented circling:

History: 7 months old lamb, had been circling to the right side constantly. It was butchered to harvest meat. The head was submitted to the lab. Suspect *Clostridium perfringens* Type D.

Diagnostics: Brain inflammation with "microabscess" formation, and (rare) bacteria seen microscopically within some brain cells.

These changes are indicative of Listerial infection.

QUESTION: how frequently do you think producers might consider butchering a lamb with these clinical signs?

ANSWER 1: some might consider euthanizing and feeding it to dogs although they shouldn't do that either.

Diarrhea and mortality in goats.

History: Significant death over several months. Kid crop this year (39/60). Both kids and mature animals are dying. Goats get diarrhea then decline. Owner can "keep them alive" for approximately 3 weeks. On a pellet ration (medicated beef grower with coccidiostat @ 72mg/kg). No medications appear to help them. Owner has tried calf scour boluses, Vitamin AD3 Forte, clostridial vaccine, and antimicrobials in water and by injection.

Diagnostics:

Post-mortem: liver and kidney structural changes.

Potential problems with feeding beef pellet:

- Feeding twice cattle dose of coccidiostat.
- Copper level in beef pellet likely to be too high for goats

Potential problems with case management:

- Animals with diarrhea tend to be dehydrated. Administering the antimicrobials selected, to dehydrated animals could create drug toxicity responsible for some of the above post-mortem findings.
- What's the goat dose for the calf scour bolus being used? [there isn't one].



Reproductive disease

For purposes of the vet clinical impressions surveys, diagnosing a condition Rarely = 1-2 times from July - September 2023; Commonly= 1-2 times per month; Very frequently = 3+ times per month

Across nutritionally-associated reproductive disease, network practitioners reported seeing energy/calorie disease never to Very frequently, and reproductive disease associated with water quality never to Rarely, with energy/calorie deficiency also rated **Increasing** by one vet.

Condition scoring is a simple method for assessing the condition, or fat cover, of an animal, to guide feeding management at each stage of production([https://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/agdex9622/\\$FILE/bcs-sheep.pdf](https://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex9622/$FILE/bcs-sheep.pdf))

QUESTION: given the drought last year on the prairies, how frequently do producers condition score their animals?

ANSWER 1:

- In big flocks they will also use an electronic scale, but in small flocks without that kind of equipment condition scoring is crucial.
- Important to stress that you can't condition score sheep based on appearance unless they have recently been shorn!

- If they are being hand-fed you can just touch a few backs when they gather around you to be fed.
- You also need to temper scoring based on breed [some breeds such as Suffolk tend to be bigger].

ANSWER 2: it's a point for producer education. Mostly small flocks to be at one end of the spectrum or the other (fat or skinny), with fewer in the middle, relative to commercial flocks

Meeting takeaways

Collect, freeze, and submit abortions to the lab based on the “rule of three”.

Don't feed beef supplements to sheep or goats without checking with your vet, since the level of copper and possibly other ingredients will likely be inappropriate if not toxic.

Don't medicate dehydrated animals without checking with your vet: some medications may make their condition significantly worse (e.g. sulfa drugs in dehydrated animals).

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