



The WeCAHN beef network met Feb. 1st 2024 with veterinary practitioners, producers, provincial veterinarians, diagnosticians, and researchers in attendance, discussing the beef health events of Q4 (October– December) 2023.

Pregnancy testing 2023

Network veterinarians' comments:

B.C.: we found variable rates. Some still had good rates and a 60 day breeding period. Across our clients, open rates were ~ 2-3% worse than usual. Underlying factors in problem herds were feed quality or just feed shortage, and people turning out cattle for breeding season onto marginal grass.

Alberta: we had similar experiences. Interestingly we had some herds turning out fairly lean cattle onto irrigated pastures and they seemed to get a flushing effect that actually improved their conception rates.

Saskatchewan: Preg rates: highly variable (from 2-3% open to up to 60+%) across practice area. We saw variation even among different groups in the same operation, or different groups in adjacent pastures. Very small/inactive repro tracts (regressed to point where difficult to palpate in mature cattle).

Manitoba: "preg check [open] rates were definitely higher than normal. Anywhere from 10-75% open. Probably average 15%. Body Condition Score (BCS) was a significant factor indicating if a cow was going to be bred or not. I would say higher open rate on later calving herds".

RESEARCH FINDINGS: IMPACT OF BODY CONDITION SCORE (BCS) ON REPRODUCTIVE PERFORMANCE

Effect of BCS on open rates:

Skinnier cows are more likely to be open, if they have a BCS < 3 on a 5 point scale.

(Garcia Guerra & Waldner 2013, Therio 79:1083-94)



Skinnier cows are more likely to be open at pregnancy testing in herds with a short breeding season, or late at pregnancy testing in herds with a longer breeding season.

Skinnier cows (BCS less than 3 on a 5 point scale compared to those greater than three) are more likely to abort than those with BCS > 3.

(Garcia Guerra & Waldner 2013, Therio 79:1083-94)

Skinnier cows (BCS less than three) are more likely to have a stillbirth than those with BCS greater than 3. Heavier cows (BCS greater than 3) have NO increased risk.

(Waldner 2014, Therio 81:840-48; Waldner 2014, Livestock Sc 163:126-39)

Skinnier cows (BCS less than two) have a greater risk of hard pulls than those with medium (BCS of 3 on a five point scale) scores.

(Waldner 2014, Livestock Sc 163:126-39)

Slightly heavier cows (BCS is 3.5, compared to cows with BCS of 3) have a slightly greater risk of hard pulls.

(Waldner 2014, Livestock Sc 163:126-39)

Yersinia pseudotuberculosis in a beef cow-calf herd

Herd history: Multiple deaths with similar symptoms, last winter and again this fall. Cows are depressed and off feed. Diarrhea, dehydration and death within 2-3 days. Some cows recover. Last year problems were mostly in small group of custom cows. This year problems are in main cow herd. Canada geese frequent in feeding ground.

***Yersinia pseudotuberculosis* in a beef cow-calf herd continued:**

Post-mortem: Carcass is sunken, eyes bloodshot. Diarrhea with blood in bowel 75 days pregnant. Lungs, trachea, liver, heart all normal.

COMMENTS:

Yersinia pseudotuberculosis is not isolated very often, in any animal species! We will continue to monitor the laboratory data and vets' clinical impressions surveys for these sporadic *Yersinia* cases. Although so far, fortunately, they seem to be quite rare, they could be important for several reasons:

- Potential for zoonosis. In the case reported last quarter, caregivers (feedlot workers) became ill with gastrointestinal symptoms similar to the cattle. Human diagnostics are unknown and *Y. pseudotuberculosis* is not notifiable in Saskatchewan. So far there have been livestock deaths in each affected herd.
- Infection sources so far have all been unclear, but theorized to possibly be associated with wildlife.

Respiratory disease

Some BRD treatment failures were discussed and one potential contributing factor identified was copper deficiency.

Bovine Respiratory Syncytial Virus (BRSV) detections trended up in Q4 (October – December) 2023 at one western lab, and as with previous historical BRSV data this trend was not noted at others.

BRSV may be found with some types of pneumonia in association with BRD pathogens such as *M. haemolytica*. However, it may also be associated with a different form known as interstitial pneumonia. This type of pneumonia was also increased in Q4 (October—December) 2023 at one western veterinary diagnostic laboratory.

To help understand these different temporal patterns in BRSV detection, Prairie Diagnostic Services has received funding from the Beef Cattle Research Council (BCRC) to prospectively sequence clinical beef BRD isolates.

The objectives are to understand which major viral subgroups are circulating in western Canada, and compare these with vaccine strains. WeCAHN is supporting this initiative by providing additional funding to similarly sequence and study dairy-derived isolates as well as those found by the other western labs in western Canada.

Meeting takeaways

Research is underway in western Canada to study the BRD pathogens and the degree of their match within current vaccines.

The reduced pregnancy rates reported in many beef herds in 2023 may reflect drought-related changes in BCS and nutritional status, and could also suggest value in selecting cows for resilience and stay-ability.

Some cattle diseases are zoonotic, including Cryptosporidia, which may be associated with calf scours, and the recently described cases of *Yersinia* diarrhea in older cattle. A WeCAHN podcast on zoonotic diseases in cattle by Dr. Sylvia Checkley at UCVM, describing these diseases and their prevention, can be heard here: <https://wecahn.podbean.com/e/zoonotic-diseases-of-cattle/>