Western Canadian Animal Health Network

WECAHN DAIRY NETWORK PRODUCER REPORT

JAN—MAR 2022

Dairy Network Meeting

INTRODUCTION:

Participants attending the meeting:

The videoconference meeting of the WeCAHN dairy network was held June 6, 2022.

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

Report Contents:

1. Dataset Overview:

i. Clinical Impressions Survey

ii. Laboratory Data: UCVM Diagnostic Services Unit (DSU); Prairie Diagnostic Services (PDS); Manitoba Veterinary Diagnostic Services Laboratory

iii. CgFARAD

iv. Scan :Promed

Clinical Impressions Survey and Laboratory Data:

The clinical impressions survey is 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 western laboratory data.

2. Interesting or Unusual Cases:

1. Abnormal tear ducts in a newborn heifer:

- **Seen in Holstein heifer, with crusty eyes noted almost immediately at birth, and tearing ~ 1 inch below each eye.**
- **For now the approach is 'wait and see' since she does not have enough value to warrant a referral.**

Ref: https://www.researchgate.net/publication/260252664_Congenital_nasolacrimal_duct_fistula_in_Brown_Swiss_cattle

Interesting or Unusual Cases continued:

2. Increased incidences of Clostridial diseases (Black Leg and Hemorrhagic Bowel) in breeding aged heifers and cows in herds affected (directly or indirectly) by flooding last spring in the Sumas Prairie, BC.

- Saw uptick in cases in non-vaccinated herds in April, starting at the end of the area where the previous flooding started.
- First saw blackleg in heifer pens, with as many as 3-4 dead per day. These were diagnosed largely on post-mortem.
- Then saw more clostridial cases in May and June, including hemorrhagic bowel disease, mostly in cows.
- Suspect these cases reflect an increase in exposure to Clostridia due to movement of floodwaters and deposition of contaminated silt.
- In this area, it's pretty common to not vaccinate for Clostridia. Where there is an Increased uptake of vaccination, could be related to:
  - experience of increased cases
  - planned movement of cattle e.g. heifers may be moved to sites in the interior of BC, and these animals are more likely to be vaccinated.

Comments:
MB: When started practising, ~ 5- 10% of herds were vaccinated. Now it's closer to 90%, because of experiences with hemorrhagic bowel.
AB: Similar comment; improved uptake may be more related to blackleg risk.

3. Respiratory System

- Respiratory disease was reported Commonly to Very Frequently practitioners, with clinical pneumonia (no lab samples submitted) and broncho-pneumonia the most frequently reported syndromes.
- Broncho-pneumonia associated with *Pasteurella multocida* (in youngstock, replacement heifers, and lactating cows, *Histophilus somni* (in replacement heifers and lactating cows) were reported increasing relative to Q4 2021 by one practitioner.

Comment:
BC: Saw uptick in broncho-pneumonia, associated with *Pasteurella multocida* and *Histophilus somni.*
- these herds were not vaccinated. In general saw lapses in vaccination due to unusual cattle movements around flooding.
- these were happening especially in January and February; tapering off now.

4. Digestive System

- Digestive disease was reported Commonly to Very Frequently by practitioners.
- Diarrhea was reported Commonly to Very frequently, and seen Commonly associated with antimicrobial resistant *E. coli*, and *Clostridia,* by one practitioner. Diarrhea associated with *E. coli*, Rotavirus, Coronavirus*, Cryptosporidia spp*. and *Clostridia*, by one practitioner, relative to the previous quarter (October – December 2021). All were reported occurring in calves with the exception of Clostridial infections, which were seen in lactating and dry cows.

***E. coli* diarrhea:**
- Seen in some vaccinated BC herds, using commercial vaccine (e.g. Scourguard™); newborn to couple of weeks old.
- Herd problems reflect colostrum quality and problems of hygiene in closeup cow area.
- Vaccination for *E. coli* in our area is very common.
- Outbreaks occur due to cattle stress or crowding.

Question: Anyone aware of published surveys describing uptake of common vaccines in Canadian dairy cattle?
Answer: Not really. Perhaps ProAction data could fill this gap in future?

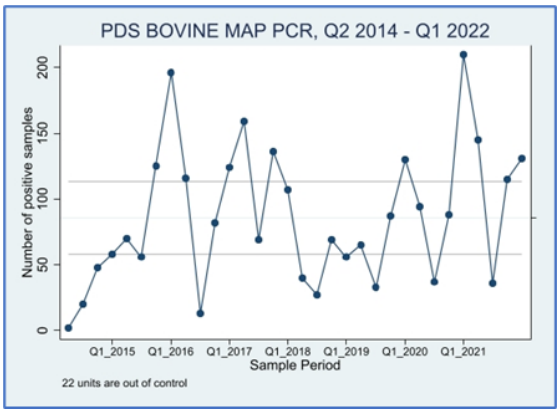
- Diarrhea was also associated with Johne's disease (aka *Mycobacterium avium paratuberculosis*, or MAP) in cows.
- Apparent time trend in the laboratory Johne's disease (MAP) data varied across the range of possible tests used, with slight uptick in MAP PCR positives at Prairie Diagnostic Services (PDS) in Q1 2022 after decline Q4 2021, and other tests relatively stable (data not shown).

Digestive System continued:

Recap on control charts: Each dot represents the number of cases of a specific agent or disease syndrome, diagnosed by a specific laboratory, over a 3 month interval. The parallel horizontal lines are similar to 95% confidence intervals, and so dots falling outside the lines represent findings which could be further investigated.

- Bloody diarrhea also reported Commonly by one practitioner, associated with coccidia, winter dysentery, and *Salmonella* Dublin.

***Salmonella* spp. Laboratory cases:**



PDS:
S. Dublin: 3 cases: 2 'bovine', 1 Holstein. Two were isolated as part of respiratory work up
S. Typhimurium: 1 case: Angus calf , diarrhea panel
MB VSDL: *S.* Dublin: 2 bovine cases.

Comments:
MB: Majority of *S.* Dublin is seen in diarrheic calves, and in general, it's seen rarely.
BC: First round of BTM testing for provincial *S.* Dublin monitoring program is available on website.

- Reported relatively high proportion of herds positive, meaning showing antibodies suggesting cow exposure.
- Impression of findings:
  - -some herds knew they were positive.
  - - some were quite surprised since they had not experienced calf illness.
  - - theory: some cows may be chronic carriers, some may shed when stressed e.g. around calving.

- **Abomasal (stomach) disease** was reported Commonly by one practitioner, and jejunal hemorrhage was reported Very frequently by one practitioner.

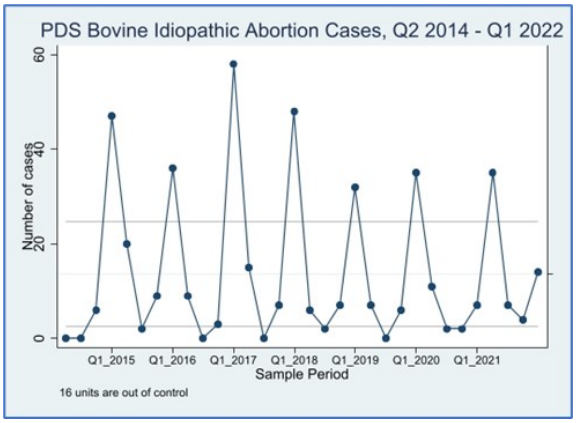
5. Multi-systemic diseases

- Multi-systemic diseases such as blood poisoning or nutritional problems were reported Rarely to Commonly by practitioners.

6. Reproductive System

- Reproductive disease was reported Commonly to Very Frequently by practitioners.
- Individual female reproductive disease (e.g. endometritis) was reported Commonly by 2 practitioners.

Problems related to nutrition:
MB: Saw lots of ketosis, cows not cycling properly- more related to straight energy deficiency than novel/ alternative rations.



- Idiopathic (Un-diagnosed) abortions as a pathologic diagnosis at PDS continued to be stable over time.
- Re: control chart: The parallel horizontal lines in the control chart are similar to 95% confidence intervals, and so dots falling outside the lines represent findings which could be further investigated. However, strongly seasonal outcomes will tend to have the 'busy' season fall outside the parallel lines, and trends should be assessed year-to-year instead of quarterly.

7. Musculoskeletal System

- Musculo-skeletal diseases were reported Rarely to Commonly by practitioners, with digital dermatitis reported Commonly by 2, and footrot associated with AMR/treatment failure reported by one practitioner.

8. Mastitis

- Mastitis was reported Rarely to Very frequently by practitioners. With summer approaching, a summer rise in Gram negative bacteria (bacteria found in manure, such as *E. coli* and *Klebsiella*)

Comments:
BC: Related to wet warm weather and sawdust bedding - To mitigate, we add lime in stalls, also prescribe the *Klebsiella* vaccine in problem herds
MB: Expect rise in *Strep. uberis* related to strawpack and humidity; this year could be a bad one.

9. Canadian Global Food Animal Residue Avoidance Database (CgFARAD) Spring 2022 Newsletter

- Dairy cattle continue to represent relatively low (7%) proportion of inquiries.
- BRD and mastitis are the most frequent disease syndromes associated with CgFARAD requests.
- Ceftiofur, procaine penicillin G and TMS were the antimicrobials most frequently the subject of inquiries, predominately in lactating cows.
- Treatment of pain and inflammation was another major topic of inquiries, and consequently meloxicam was also a major topic of inquiries, again predominately in lactating cows.

10. Project Updates

1. CHeSS in Alberta:

- Sample BTM collection has been completed from all AB dairies in Dec 2021 and April 2022.

ELISA findings on first two collections:

ELISA Assay	Herd-level prevalence: December collection	Herd-level prevalence: April collection
BLV	~ 90%	~ 90%
N. caninum	18%	7%
S. Dublin	11%	6.6%

Now samples are being assayed via PCR for milk pathogens; results will follow.

Question: What is the sensitivity of the assay used ?
A: Can check; we are using the IDEXX kit.

Comment (lab): What were you intending to use it for?
Answer: Collecting serum to assess open cows, or those with mid-term abortions.
Comment: Interpretation of a *Neospora* seropositive is tough since *Neospora* is widespread in the environment, so seropositive is not necessarily specifically related to individual's reproductive performance.

2. *M. bovis* project:

- Involves analysis of data (from lactating cows and youngstock at 5 timepoints over a couple of months) from 20 herds in Netherlands, with the objective of understanding transmission routes of *M. bovis* in an infected herd.

11. Scan

Promed: Reports of ongoing Foot and Mouth Disease (FMD) in the Middle East, and a new outbreak in Indonesia (which eradicated FMD in the seventies) in May, highlight the need for vigilance in keeping FMD out of Canada. For more information: https://promedmail.org

12. Meeting Take-aways

- Ongoing impacts of extreme weather last year (changes in rations/unusual movements/laps of some herd SOPs) continue to pose problems.
- Basics including vaccine and hygiene protocols remain important!