

# WECAHN DAIRY NETWORK PRODUCER REPORT January - March 2025

The WeCAHN Dairy Network held a quarterly videoconference meeting on May 2nd, 2025, to discuss the animal health events occurring from January to March 2025. Veterinary practitioners, diagnosticians, veterinary college faculty, researchers, and industry representatives attended the meeting.

### 1) Overview

Data sources in this report include:

- 1. Clinical Impressions Surveys completed by network practitioners.
- Data shared by western veterinary diagnostic laboratories: Manitoba Veterinary Diagnostic Services (VDS) laboratory, Prairie Diagnostic Services (PDS), and University of Calgary College of Veterinary Medicine Diagnostic Services Unit (UCVM DSU).
- 3. Scan: bovine surveillance reported by other sources or networks.



# 2) Invited presentation on dairy calf bovine respiratory disease (BRD) diagnosis

Kathryn Spohn, PhD candidate at the University of Guelph, Ontario, co-supervised by Drs. David Renaud and Charlotte Winter.

- The goal is to develop a list of symptoms and findings when using lung ultrasound to diagnose pneumonia in dairy calves that need to be treated with antibiotics.
- A review (<u>Churchill et al., 2024</u>) identified cough, nasal discharge and increased body temperature as the common symptoms used for diagnosis of BRD.
- The researchers are surveying veterinarians to refine the long list of symptoms and ultrasound findings found during the review (<u>Churchill et al., 2024</u>).

# Network members use the following to diagnose pneumonia in dairy calves:

- Producers use symptoms to diagnose pneumonia and administer antibiotics.
- Veterinarians listen to the lungs with a stethoscope for any unusual sounds (e.g., crackling) and look for signs like nasal discharge, fast breathing and fever to diagnose pneumonia.
- Occasionally, veterinarians use ultrasound; some practitioners use thoracic ultrasounds on specific herds for routine surveillance. Another veterinarian stated that they work with trained technicians who perform thoracic ultrasound and respiratory scoring and then report to the veterinarian.
- Veterinarians receive pictures and videos for a "digital diagnosis."

# 3) Interesting cases



i) In Alberta, a herd experienced an outbreak of the infectious agent *Mycoplasma bovis* in adult lactating cows.

**History:** This was the area's first outbreak of *M. bovis*. It was a small, closed herd of 55 cows with one milking robot.

- The herd was vaccinated with TOPVAC<sup>®</sup> (*E. coli* and *Staph* infections; HIPRA Animal Health Canada Inc.), killed 5-way (infectious bovine rhinotracheitis virus (IBRV), parainfluenza type 3, bovine respiratory syncytial virus (BRSV), bovine viral diarrhea types 1 and 2) and a killed 8-way (clostridial diseases).
- Other cows had swollen legs, and a few had mastitis.
- The herd had a 40% decrease in milk production.
- Another group on the farm had nose-to-nose contact, and some had signs of ear infection.
- Calves in the herd were fed whole milk and did not develop disease.



**Testing:** the practitioner submitted bulk tank milk samples and samples from the affected cows for testing. The blood sample test was negative, but the other samples were positive for *M. bovis.* 

**Treatment:** The affected cows were removed from the barn, and a short-acting antimicrobial was administered.

- At a recent herd check, the cattle, including the previously affected cows, were negative for *M. bovis*.
- Many cows had to be culled due to lameness.
- Maybe three cows will be reintroduced into the herd.
- The plan forward is to test bulk tank milk for monitoring purposes.
- All youngstock were vaccinated.

**Transmission:** A beef client near the herd bought whole milk, and they developed disease.

# ii) A practitioner in Alberta reported an abnormal vulva on a breeding-age heifer.

**History:** The producer went to inseminate the heifer artificially, but could not get the pipette in.

- This abnormality was not likely associated with being intersex (freemartin) because the calf was not a twin.
- The reproductive tract looked normal; it was normal on the ultrasound, too. The vulva lips were sealed for nearly the entire length with a small opening about 1" ventrally where she could urinate.

**Treatment:** The veterinarian offered the option of surgery to open the vulva. It was declined, and she will not be bred.

 iii) A dead, deformed calf was delivered by cesarian section. The post-mortem and subsequent testing did not reveal the cause of the malformations. Many causes were investigated:

- Bacteria *Ureaplasma diversum* and *Neospora caninum* were negative.
- Multiple viruses were tested (e.g., bovine viral diarrhea virus, Cache Valley virus), and these were negative. It is possible that the calf was infected with one of these viruses and cleared the virus by the time of birth.
- There are also other causes for the malformations that were not investigated (e.g., genetic, lupines).

# 4) Syndromic surveillance

Important information:

#### **Clinical impression surveys**

#### Never

Rarely = 1-2 times per 3 months Commonly = 1-2 times per month Very frequently = 3+ times per month

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#### 'Control charts'

In the following document, under the sub-heading 'laboratory diagnoses,' there are multiple graphs called 'control charts.' Control charts are a simple way of presenting data collected over time (e.g., increasing ordecreasing detection frequencies). Each data point reflects the number of positive samples or cases reported by a diagnostic laboratory over 3 months (quarter of a year). The upper and lower horizontal lines are called control limits. Individual points lying outside the control limits (special cause or unstable point) suggest a need for investigation to determine whether/how significant a signal they represent. In some situations, control charts are not applicable (e.g., when the previous data points do not have a horizontal trend line), but these plots canstill be used to demonstrate time trends.

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## **Respiratory system disease**

## Clinical impression survey for respiratory system disease Respiratory disease was reported Rarely (1/4) to Commonly (2/4) to Very frequently (1/4).

 Pneumonia without a known cause was reported Never (2/3) to Very frequently (1/3).

Laboratory diagnoses for respiratory system disease At the Prairie Diagnostic Services (PDS) laboratory this quarter, respiratory infectious agents and dairy cattle disease were within the control limits of the control charts.

At the Veterinary Diagnostic Services (VDS) laboratory, detections of infectious bovine rhinotracheitis virus (IBRV) and cultures of *Mannheimia haemolytica* in all bovines exceeded the upper control limit of the control charts. Other respiratory infectious agents were within control limits.

At the University of Calgary Veterinary Medicine Diagnostic Services Unit (UCVM DSU), two calves were diagnosed with aspiration pneumonia of meconium (i.e., newborn stool), secondary septicemia (i.e., infection of the blood), and underlying vitamin A and E deficiencies. Post-mortem evaluation of two 3-year-old cows revealed pneumonia.

### Additional details of the *M. haemolytica* case in 3-yearold cows from a pathologist:

- **History:** The laboratory received field necropsy tissues from two 3-year-old dairy cows. The herd has lost six cows since February 2025. Both cows had been sick, not eating for 10 days and 7 days. Both were euthanized.
- The symptoms would suggest an underlying process (e.g., pre-existing disease, stress, underlying metabolic disease, etc.) that predisposed the cows to the terminal and acute *M. haemolytica* pneumonia.

# **Digestive system disease**

## **Clinical impression survey for digestive system disease** Digestive disease was reported **Commonly** (2/4) to **Very frequently** (2/4).

• Diarrhea was reported Rarely (1/4) to Commonly (2/4) to Very frequently (1/4).

#### Laboratory diagnoses for digestive system disease

At PDS this quarter, digestive system infectious agent detections and pathological diagnoses in the dairy cattle were within the control limits of the control charts.

At VDS, detections of coronavirus, rotavirus and cryptosporidiosis in calves in all commodities exceeded the upper control limits. Pathological diagnoses of neonatal calf diarrhea secondary to coronavirus and rotavirus were few, with the number of diagnoses within control limits.



**Reproductive system disease** 

# Clinical impression survey for reproductive system disease

Reproductive system disease was reported **Rarely** (2/4) to **Very frequently** (2/4).

- Abortions or infectious infertility were reported **Never** (2/2).
- Disease of the uterus was reported Very frequently (2/2).
- Disease of the ovaries was reported Very frequently (2/2), compared to Commonly (1/1) last quarter.
- Non-infectious causes of infertility were reported **Never** (1/2) to **Very frequently** (1/2).
  - A practitioner noted that nutrition (unclear specifics) was Rarely the cause of non-infectious infertility in thin heifers, and energy/calorie deficiency was Rarely the cause in fresh cows.





Laboratory diagnoses for reproductive system disease

At PDS this quarter, detections of *Neospora caninum* by serology were few in dairy and unknown commodities. There were no diagnoses of *N. caninum* abortions. Other causes of abortion, such as idiopathic abortion and abortion associated with IBRV, were not diagnosed in dairy cattle this quarter.

At VDS, a few detections of N. caninum by serology and PCR were reported across all bovine commodities, but no pathological diagnoses were made. Many abortions were investigated this quarter, with the number of cases (i.e., one submission to the laboratory) remaining within the control limits of the control charts. There was one Ureaplasma-associated abortion. There were three cases of IBRV-related abortion in beef, the first detections since Q2 2021.

At UCVM DSU, no abortions were diagnosed this quarter, and there were no detections of *N. caninum*.



#### Musculoskeletal system disease

# Clinical impression survey for musculoskeletal system disease

Musculoskeletal disease was reported **Rarely** (1/4) to **Commonly** (1/4) to **Very frequently** (2/4).

- Foot disease was reported **Never** (1/3) to **Commonly** (2/3).
- Arthritis caused by *Mycoplasma bovis* was reported Never (2/3) to Very frequently (1/3), with a stable (1/2) to increasing (1/2) frequency of diagnosis relative to the previous quarter.

## **Multisystemic diseases**

### **Clinical impression survey for multisystemic diseases** Multi-systemic disease was reported **Rarely** (3/4) to **Commonly** (1/4).

- Septicemia (i.e., infection of the blood) was reported Commonly (1/1).
  - *E. coli* was diagnosed Commonly in pre-weaning calves and lactating cows (1/1), with an increasing (1/1) frequency of diagnosis compared to last quarter.

o Salmonella Dublin was Never (1/1) diagnosed.

#### Laboratory diagnoses for multisystemic diseases

At PDS, detections of bovine leukemia virus (BLV) and Johne's disease (*Mycobacterium avium* ssp. paratuberculosis or MAP) and cultures of *Clostridium perfringens* and *E. coli* in dairy cattle were within the control limits of the control charts. PCR detections of *Salmonella* Dublin in dairy cattle were within control limits, with no cultures of *Salmonella* Dublin reported.

At VDS, detections of BLV and Johnes's disease, and cultures of *C. perfringens* and *E. coli* within control limits.

At UCVM DSU, a 4-month-old female calf died from septicemia caused by *Salmonella* Dublin. There were two year-old heifers diagnosed with blackleg, caused by the bacterium *Clostridium chauvoei*.

# Additional details of the blackleg case in year-old cows from a pathologist:

- **History:** Replacement heifers, four dead. The herd was not vaccinated. The pen had been deeply cleaned, and the heifers were placed back in the area.
- Tissues were submitted by the veterinarian who performed field post-mortems. The muscle and heart were damaged.







# Mastitis

#### **Clinical impression survey for mastitis**

Teats and udder disease were reported Rarely (4/4).

#### Laboratory diagnoses for mastitis

At PDS this quarter, cultures and detections of mastitis infectious agents in dairy cattle were within the control limits of the control charts. A few cultures of *Klebsiella pneumoniae* were reported from milk in unknown cattle commodities. One case noted a history of previous Klebsiella infections in the herd, with several new cases and deaths recently.

At VDS, cultures and detections of mastitis pathogens were within the limits of the control charts.

At UCVM DSU, a case of mastitis was reported with *Corynebacterium spp*. with high growth. Other mastitis pathogens were cultured infrequently.

# 5) Scan

### i) Recent publications may interest:

"Pain in Dairy Cattle: A Narrative Review of the Need for Pain Control, Industry Practices and Stakeholder Expectations, and Opportunities" (<u>Roche et al. 2025</u>).

• The highly pathogenic avian influenza (HPAI) of concern is influenza A virus subtype H5N1 genotypes B3.13 and D1.1 in dairy cows.

#### USA:

#### • Dairy cattle:

- As of May 12, 2025, there were 33 new confirmed cases of HPAI in cattle in 3 states in the last 30 days (a case is defined by a positive PCR at a National Animal Health Laboratory Network (NAHLN) laboratory (<u>LINK</u>)).
- The total is 1,053 confirmed cases in 17 states.
- USDA's most up-to-date information can be found on their website (<u>LINK</u>).
- USDA's National Milk Testing Strategy (NMTS) continues with mandatory milk bulk tank surveillance. A map of the status of each State can be found <u>here</u>.

#### • Humans:

 As of May 9, 2025, the CDC has confirmed 70 cases of avian influenza A(H5) in people in the USA. Forty-one infections (59%) were associated with exposure to affected dairy cows, and 24 (34%) with exposure to infected poultry. The source of exposure for the remaining five human cases was either unknown (n=3) or animal sources (n=2) (LINK).



#### Canada, dairy milk samples:

 As of May 8, 2025, the Canadian Food Inspection Agency (CFIA) laboratories tested 3,498 raw (unpasteurized) milk samples at processing plants; all samples were negative for HPAI (<u>LINK</u>).

## ii) Canadian Animal Health Surveillance System (CAHSS) Dairy Network Q4 2024:

- Manitoba updated its HPAI in dairy plan
- Ontario identified multidrug-resistant *E. coli* in dairy-beef crosses; this matches closely with Quebec detections. Present as septicemia with severely inflamed joints and pure *E. coli* culture.

## iii) Foot and Mouth Disease (FMD) in Europe and the Middle East:

- Hungary: 5 herds affected so far, with the newest detection on April 17, 2025 (British Agriculture Bureau (BAB), 2025).
- Slovakia: 6 herds were affected since March, with the newest detection on April 4, 2025 (<u>BAB, 2025</u>).
- Germany has been certified as free of FMD by the WOAH, after the detection of FMD in water buffalo in January this year (<u>Reuters</u>, <u>2025</u>).
- Of note, an exotic strain of FMD was detected in Iraq and Bahrain (FAO, 2025).
- Additional information about FMD: Canadian Food Inspection Agency (CFIA) (<u>LINK</u>).

# Takeaways:

- 1. Work with your veterinarian to create a list of symptoms, like cough, nasal discharge and increased respiratory rate, to diagnose pneumonia in dairy calves. If you're unsure if the calf has pneumonia, ask your veterinarian to use thoracic ultrasound for a more accurate diagnosis.
- Keep an eye out for any unusual reproductive issues in your heifers and report them to your veterinarian promptly. Early intervention can help manage these problems effectively.

Financial support was provided under the Sustainable Canadian Agricultural Partnership, a federal-provincial-territorial initiative.

