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Quarterly Teleconference

Participants on the call noted a predictable increase of respiratory disease over the fall months. Some found an increase in pneumonia cases earlier in the season than usual. Among beef cattle, participants noted an increase in lice necessitating treatment.

Surveillance Summary

Laboratory Diagnostic Reports

Dr. Andrew Brooks presented a summary of 149 bovine submissions through the AHL with associated data. Submissions were grouped as < 2 months, 2 months to 2 years, > 2 years, abortions and meat inspection/OMAFRA.

Case highlights from Q3 are as follows:

- There were fewer submissions over this quarter than usual by about 25%.
- Among young calf submissions, 82% had a definitive or presumptive diagnosis to explain the clinical problem. For 7 submissions with no diagnosis there were insufficient samples or incomplete testing.
- Enteritis, septicemia and pneumonia were diagnosed most often on postmortem and histopathology among young calves, consistent with previous quarters.
- Among calf enteritis cases, coronavirus and rotavirus were isolated less frequently than in other quarters, otherwise the typical agents of calf diarrhea were identified. Approximately 50% of enteritis cases had mixed infections.
- *Salmonella* Cerro was associated with one case of calf diarrhea which is an atypical finding.



Animal Health Lab Data Continued...

- Among older calves the definitive diagnosis rate was poorer (64%), mostly due to insufficient samples or testing. Pneumonia was once again the most common diagnosis. There was one case of lung worms (*Dictyocaulus viviparus*).
- On abortion submissions, the diagnosis rate by post mortem at AHL vs. practitioner postmortem with submission of samples was the same (56%); typically the practitioner rate is lower - improvement is attributed to improved sampling by practitioners.
- There were 3 new cases of *Ureaplasma* abortions this quarter
- There were 254 bacterial cultures (non-milk) and 27 submissions had *Salmonella* isolates.
- There were 15 submissions with *Salmonella* Dublin isolates from an estimated 11 premises. For 7 premises, this was the first diagnosis of *Salmonella* Dublin.
- There were 2 positive PCR test results for Bovine Viral Diarrhea Virus. One case was a 1-year old beef animal with chronic diarrhea and weight loss. The second case was a 4-month old dairy calf with diarrhea.

2018 Bovine Condemnations at Ontario Slaughter Plants

In 2018, 95,110 bovine animals were slaughtered in Ontario provincial slaughter plants. This number was composed of 34,317 steers, 24,881 veal calves, 18,698 heifers, 10,173 cows, 6,015 bulls, and a small number of light weight calves, bison and, water buffalo.

The carcass condemnation prevalence in 2018 was 0.73%. This is reduced from 0.93% in 2017. The top five reasons for condemnation were septicemia, peritonitis, endocarditis, abscess and lymphosarcoma. These reasons duplicate the top 5 reasons in 2017. The partial condemnation prevalence was 18.05% in 2018, compared to 19.21% in 2017. The majority of partial condemnation resulted from abnormalities identified in kidneys or liver. Condemnations are categories by inspectors and do not represent veterinary diagnoses.

Complete livestock and poultry statistics can be found at:
<http://www.omafra.gov.on.ca/english/stats/livestock/index.html>



Salmonella Dublin Update

Salmonella Dublin cases continue to be identified on new premises in Ontario each quarter. During 2016 and 2017, *Salmonella* Dublin was identified on approximately 7 and 8 new premises, respectively. During 2018, *Salmonella* Dublin was identified on approximately 18 new premises. These numbers are estimates as not all submissions are accompanied with a Premises Identification Number making it challenging to be sure which cases are new. Cases came from predominantly veal or dairy operations, however commodity, breed and history were lacking on many submissions. When included, the primary presentation in the history is pneumonia, septicemia and high mortality.

Sensitivity to antimicrobials is tested on each submission where *Salmonella* Dublin is identified. Samples tested at the Animal Health Lab in Ontario shows that all of the isolates are multi-drug resistant, similar to reports from New York State and Quebec. Most submissions are resistant to the same antimicrobials, which may suggest the same strains of the bacteria are being spread around Ontario farms. It should be noted that these results represent only cases that a veterinarian made a decision to send in lab samples for. Usually this means cattle have previously been treated and there may be a higher percentage of resistance to some drugs typically used for treatment than in the general population. However, the consistency of multi-drug resistance emphasizes the value of submitting laboratory samples to confirm *Salmonella* Dublin as the cause of disease, particularly when treating unusual pneumonia cases, as it will likely be unresponsive to antibiotic treatment.

It is important to be aware that *Salmonella* Dublin can also cause illness in humans. If producers, calf caretakers, or their families become ill, contact a physician.

Salmonella Dublin

Signs: fever, pneumonia, and death, sometimes quickly without seeing other signs

Age Affected: typically animals less than 6 months of age

Risk Factors for Introduction:
Animal purchase
Animal transport
Poor biosecurity

Infection and Spread:
Calves ingest the bacteria that is shed in manure, urine, milk, saliva, semen, or vaginal discharge. Once infected, survivors shed the bacteria continually contaminating the environment.

Talk to your veterinarian:

- to learn more about this disease
- to make a disease prevention plan
- if cattle become ill or die on your farm



Bovine Tuberculosis: New Strain Isolated

Canada's latest outbreak of bovine tuberculosis in domestic cattle involves a strain of TB bacteria not related to any previously seen in Canadian livestock or wildlife. Culture testing by CFIA of bacteria taken from a cow confirmed as TB-positive in November 2018 shows the strain is not related to any previous cases of bovine TB in Canada or the US. The B.C. case also does not match the last TB investigation initiated in 2016 when a cow tested positive in southern Alberta. The Alberta isolate had never previously been seen in Canadian livestock, wildlife or people, but was closely related to a strain originating from cattle in central Mexico in 1997.

Three other animals from the infected cow's home herd in BC's southern Interior were also TB-positive, however no part of any of the 4 infected cattle entered the food chain. The infected BC cattle's home premises remain under movement controls, as do 10 other premises in BC, 13 in Alberta and 1 in Saskatchewan, affecting a total of 18,000 animals.

Tuberculosis is a zoonotic disease and can be transmitted from animals to humans and from humans to animals. New strains are being identified more frequently, but whether this is due to better surveillance and testing or to the organism evolving is difficult to determine.

SOURCE: ProMed

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