



## Hepatic necrosis in neonatal beef calves: Diagnostic checklist

### Background:

An increase in fatal hepatic necrosis has been observed in Western Canadian beef calves. While the number of cases remains small, there is a need to determine the etiology and understand calf and herd characteristics that might be associated with this clinical manifestation. Calves are most often described as “weak” and having icterus or liver lesions on postmortem exam.

### Information to include in diagnostic submissions:

For suspect cases of hepatic necrosis in calves, diagnostic laboratory submission forms should be filled out completely. Important information to provide includes:

#### Herd characteristics

- ☐ Size of the herd and size of any within-herd groups that are managed separately
- ☐ Calving date range
- ☐ Housing and bedding management practices
- ☐ Vaccinations administered to dams and calves
- ☐ Feed and water source(s) during pregnancy, calving, and the neonatal period

#### Herd history

- ☐ Mortality and morbidity incidence (e.g., 5 sick and 4 dead within the last 7 days)
- ☐ General clinical signs observed in the herd
- ☐ Treatments given at the herd level (e.g., all calves are given “X” product at birth)
- ☐ Other diagnostic testing undertaken and the results

#### Case history

- ☐ Signalment including breed, age or fetal age, and sex
- ☐ Clinical signs before death including the temperature, pulse, and respiration rate
- ☐ Treatment(s) (including the product, dose, duration, and route) administered
- ☐ Timing between death and postmortem evaluation (e.g., euthanized, died overnight)

#### Field necropsy notes

- ☐ Overall body condition, hydration
- ☐ Gross internal and external abnormalities

### Diagnostic testing for the initial database for suspected cases:

Test	Sample Required
<input type="checkbox"/> Histology	Full tissue suite, particularly including gross lesions
<input type="checkbox"/> Bacterial culture	Fresh or frozen liver
<input type="checkbox"/> Mineral evaluation*	Fresh or frozen liver and kidney
<input type="checkbox"/> Vitamin A and E	Fresh or frozen liver
<input type="checkbox"/> Mycotoxin evaluation	1 kg of well-mixed feed

\* Should include Cu, Fe, Zn, Co, and Se (e.g., Mineral Panel 1 at Prairie Diagnostic Services)

**Additional testing may be required and undertaken with direction from a pathologist.**