



Dawson Creek Veterinary Clinic

238-116 Avenue, Dawson Creek BC, V1G 3C8
Small Animal 250-782-5616, Large Animal 250-782-1080
www.dcvet.ca

Infectious Causes of Infertility in Beef Cattle

There are many factors to consider in dealing with suspected infertility in beef cattle. The first is to determine if you indeed have a problem or if your losses are within normal expected range for beef cattle. The second is to review noninfectious causes of infertility, the most important being nutrition. Nutrition is the single most important factor that can cause fertility problems in cattle. Over condition or under condition of your cattle or trace mineral deficiencies are some of the problems that can cause fertility problems. Next is to rule out bull problems – this can include making sure you have an adequate bull: cow ratio, have a breeding soundness evaluation done on your bulls and also make sure your bulls haven't been lame or injured during the breeding season.

Once you have determined that you do indeed have a problem and have ruled out noninfectious causes, then you need to determine what stage of gestation the problems are occurring as different diseases can cause abortion at different stages.

Some of the infectious causes of infertility are:

1) Brucellosis:

- a. Most Canadian provinces have Brucellosis free- status
- b. Bacterial infection- *Brucella abortus*
- c. Zoonosis (can spread to humans)- causes Undulant fever
- d. Causes abortions in late gestation (>6mo)
- e. Also may cause infection of the testicles in bulls
- f. A blood test can be done to test for this disease

2) Vibriosis:

- a. Caused by a bacteria (*Campylobacter fetus*)
- b. Venereal disease- spread by sexual contact
- c. Bulls can be carriers
- d. Causes infertility and abortion (5-6mo of gestation)
- e. Diagnosis by culturing fetus, placental, uterine secretions, or bull's prepuce. This is a very difficult disease to diagnose because the bacteria doesn't live for long outside the animal's body. New tests are being developed which may make it more possible but are not available yet.
- f. Vaccines available

3) Trichomoniasis

- a. Caused by a protozoa – *Tritrichomoniasis fetus*
- b. Venereal disease- community pastures- high risk
- c. Causes early abortions, infertility, and uterine infections
- d. Carrier state in older bulls
- e. High open rates with increased uterine infections diagnosed at preg-testing- red flag
- f. No treatment
- g. Treated with management - negative cultures, virgin bulls, cull affected animals
- h. A test can be done where the bull's prepuce is scraped and the sample is cultured although usually 3 tests have to be done before a bull can be truly called negative as there can be false negative results if only 1 test is done.

i. There is an additional information handout on this disease if more information is required.

4) Listeriosis

- a. Bacterial abortions in last third of pregnancy
- b. The bacteria is found in spoiled silage- grows well in PH>5
- c. May also cause nervous disease- head tilt, circling
- d. Usually low incidence
- e. Culture of contents of aborted fetuses stomach, placental or uterine fluid is important in diagnosis

5) Leptospirosis

- a. Bacterial abortion - Late term >6mo
- b. Thrives in areas of stagnant water in warm climates
- c. Spread primarily by urine- the bacteria multiplies in the kidneys
- d. Zoonosis (can cause illness in humans)- Wildlife may be source of some infections
- e. May also cause septic illness in susceptible adults
- f. Vaccines available- questionable effectiveness
- g. Management- Fresh water management- wildlife free hay yards etc.
- h. Analysis of cow's urine, fetal fluids during an outbreak

6) Neospora

- a. Protozoan- life cycle not fully understood
- b. Causes abortion 3-8 months of gestation
- c. Carnivorous host? Coyotes, Dogs, Cats- fecal feed contamination?
- d. Infected dam can have persistent infection- this is how it perpetuates itself in the herd
- e. Our local experience- Bovatec C stopped several outbreaks dead
- f. Blood test for antibodies can be done

7) Fungal Abortion

- a. Aspergillus fungus
- b. Moldy hay/ feed- inhalation most likely source of infection
- c. Abortions 6-8 months
- d. Fungus found in stomach contents of fetus
- e. Aborted fetus – may have grey, raised lesions on skin that may resemble ringworm

8) IBR

- a. Viral abortion
- b. Very significant abortion storms may be present and last for months
- c. Vaccination very important and effective in prevention
- d. Cattlemaster, Bovishield, Express, etc all have an IBR component to the vaccine

9) BVD

- a. Very significant viral disease
- b. May cause early abortions among other numerous disease conditions
- c. Vaccination- The main reason we promote spring vaccination protocols
- d. There is an additional information handout available for more information on this disease.

If abortions are occurring, the most useful diagnostic tool that can be used, is for submission of the fetus and the placenta to a laboratory. A full post mortem will be done on the fetus and often lesions found can indicate a certain disease and testing can then be done to confirm this. If there are no lesions on the fetus, then the placenta and samples from the fetus can be analyzed and cultures done to identify any infectious organisms that might be causing the abortion.

If you are having reproductive problems with your herd or would like more information on testing or diseases, please contact the clinic.