## Brucellosis: Summary Guidance for Veterinarians

**Agent**

*Brucella spp* bacteria (important zoonotic strains are *B. abortus*, *B. melitensis* and *B. suis*)

**Susceptible species**

- **B. abortus**: primarily cattle, elk, bison. Spillover in horses, sheep, goats, pigs, raccoons, dogs, coyotes
- **B. melitensis**: primarily sheep and goats. Occasionally cattle, camels, dogs; rarely horses and pigs. Spillover into wild ruminants.
- **B. suis**: Primarily pigs, reindeer and caribou. Can also infect moose, cattle, Arctic fox and wolves. Spillover into cattle, small ruminants, horses, dogs and others.

### Occurrence in BC and the world

- Canada has eradicated brucellosis in livestock. The last confirmed outbreak was in 1989.
- Wildlife reservoirs in Canada: bison in Wood Buffalo National Park (*B. abortus*) and barren ground caribou in northern Canada (*B. suis*)
  - No wildlife reservoirs currently identified in BC
- There have been 10 documented human cases of brucellosis in BC, reported between 1993 and 2010
  - All human cases likely acquired during international travel

### Transmission

- Most common through contact with the placenta, fetus, fetal fluids and vaginal discharges from infected animals
- Venereal transmission for *B. suis* and rarely for *B. melitensis* and *B. abortus*
- Indirect transmission by fomites, including feed and water
- Persistent infection, shedding may be lifelong

### Diagnosis

**Clinical**

Incubation period varies with the species and stage of gestation at infection

Females: Abortion, stillbirth and weak offspring. Males: Epididymitis, orchitis and sterility. Boars: reproductive signs plus lameness, incoordination, posterior paralysis

*Differential diagnoses: other causes of abortion; spinal cord diseases (pigs)*

**Laboratory**

Serology, culture, smears

### Prevention and control

- Infected countries may have eradication programs including quarantines, vaccination, test-and-slaughter and/or depopulation
- Canada maintains freedom through import controls and slaughter surveillance program, as well as enhanced surveillance for cattle in proximity to infected wildlife.

### Zoonotic implications

- Transmission may occur through:
  - Contact through breaks in the skin with infected tissues, blood, urine, vaginal discharges, fetuses, placentas
  - Ingestion of raw milk and dairy products from infected animals
  - Airborne infection in laboratories and abattoirs
  - Persons exposed to a potentially infected animal should seek immediate medical attention

### Reporting

- Brucellosis caused by *B. abortus*, *melitensis*, *ovis* or *suis* is a reportable disease to the Chief Veterinary Officer (CVO) in BC
  - All suspect or confirmed cases should be reported within 24 hours (604-556-3013)
  - Veterinarians may be contacted by public health authorities for follow-up
- Brucellosis in livestock is a reportable disease to the CFIA
  - Veterinarians must immediately report suspect and confirmed cases of brucellosis to a CFIA district veterinarian