Porcine and Rangiferine Brucellosis: *Brucella suis*

Enzootic Abortion,
Contagious Abortion,
Undulant Fever,

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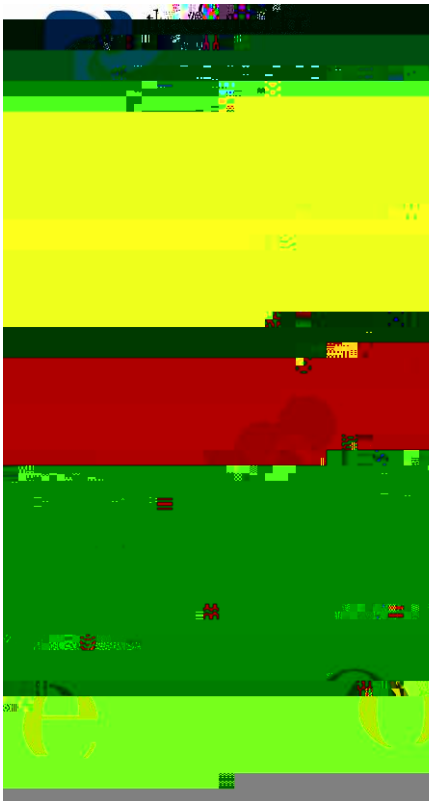

Importance

Porcine brucellosis, caused by the bacterium *Brucella suis*, is an economically important cause of reproductive loses in pigs. This organism can be maintained in wild and feral swine, complicating eradication efforts in domesticated pigs. One variancillus or short rod. Thisorganism is a facultative intracellular pathogen. Other *Brucella* species rarely found in pigs include *Brucella abortus* and *B. melitensis* (For information on *B. abortus* or *B. melitensis*, see the factsheets titled “Bovine Brucellosis” and “Ovine and Caprine Brucellosis,” respectively.)

B. suis contains more diverse isolates than other *Brucella* species, and these isolates have broader host specificity. Five *B. suis* biovars have been identified. Biovars 1, 2 and 3 are maintained in pigs; European hares are also a reservoir for biovar 2. Biovar 4 mainly affects reindeer and caribou and is not normally found in pigs, although is genetically very closely related to biovar 1. Biovar 5 occurs in rodents in the former USSR. Biovar 5 is distinct from other *B. suis* biovars, and may be more closely related to marine mammal *Brucella* isolates.

be reclassified into a single speciesB. (*melitensis*), which contai
proposal is controversial, and both taxonomic systems are curre
ple species nomenclature is used in this factsheet.

Species Affected

Most species of *Brucella* are primarily associated w

including Siberia, Canada and Alaska. Biovar 5 (murine brucellosis) occurs in the former USSR.

Transmission

In pigs, *B. suis* occurs in the fetus, placenta, fetal fluids and vaginal discharges after an abortion or stillbirth. Pigs usually become infected when they ingest feed contaminated by birth or abortion products, or eat aborted fetuses and membranes. Venereal transmission is also common in swine. *B. suis* is shed in semen; both symptomatic and asymptomatic boars can excrete bacteria.

thritis, bursitis and osteomyelitis of the vertebral bodies have also been reported.

In hares, *B. suis*

Samples to Collect

***B. suis* biovars 1, 3 and 4 are highly pathogenic for humans; samples should be collected and handled with all appropriate precautions.**

A variety of samples can be collected for culture and microscopic examination. Vaginal swabs, semen or blood samples can be submitted from live animals. Testicles can be submitted after castration. The placenta or aborted/ stillborn fetuses can also be cultured. At necropsy, *B. suis* can be isolated from lymph nodes and various organs including the spleen, liver and

Internet Resources

Centers for Disease Control and Prevention (CDC). Brucellosis http://www.cdc.gov/ncidod/dbmd/diseaseinfo/brucellosis_t.htm

Food and Agriculture Organization of the United Nations. Manual for the Recognition of Exotic Diseases of Livestock, A Reference Guide for Animal Health Staff http://www.spc.int/rahs/

Public Health Agency of Canada. Material Safety Data Sheets http://www.phac-aspc.gc.ca/msds-ftss/index.html

The Merck Manual http://www.merck.com/pubs/mmanual/

The Merck Veterinary Manual http://www.merckvetmanual.com/mvm/index.jsp

World Organization for Animal Health (OIE) http://www.oie.int

OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals http://www.oie.int/eng/normes/mmanual/a_summry.htm

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*Link defunct as of 2007