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Brucellosis in pigs

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Brucellosis in pigs is caused by the *Brucella suis* (*B. suis*) bacterium. Infection of feral pigs has been reported in Northern Australia, and a number of human infections have been reported in people who hunt and handle tissues from feral pigs. This Primefact details how infection is transmitted, the clinical signs of the disease in pigs and people, and what can be done to prevent infection.

Transmission

The most likely method of entry of brucellosis into a domestic pig herd is through contact with feral pigs, particularly in Queensland, Western Australia or the Northern Territory in areas north of the Tropic of Capricorn. Options to limit contact between feral and domestic pigs include building pig-proof perimeter fences (Figures 1 and 2) and controlling feral pig populations via trapping, shooting and/or baiting. Check with your local Livestock Health and Pest Authority (LHPA) ranger for advice on options to control feral pigs in your area or visit www.lhpa.org.au. Remember, it is an offence to transport, keep or release feral pigs, and any suspect behaviour should be reported to your local LHPA office or to the police.

Brucellosis is generally transmitted to pigs after eating contaminated feedstuffs – usually birth and/or abortion products and uterine discharges. Infection can also spread during natural mating or artificial insemination with infected semen. The bacteria can circulate in the bloodstream of infected pigs for up to 90 days. Some animals recover from infection, while others remain permanently infected. Boars that develop infections of the reproductive tract seldom recover.

B. suis can be spread via the consumption of contaminated feed, water, aborted foetuses, manure, wool, hay, equipment and clothes. Under ideal conditions of low temperature, high humidity and no sunlight, *B. suis* can survive for several months in the environment.

Figure 1: An example fabricated fence (Hone and Atkinson, 1983)

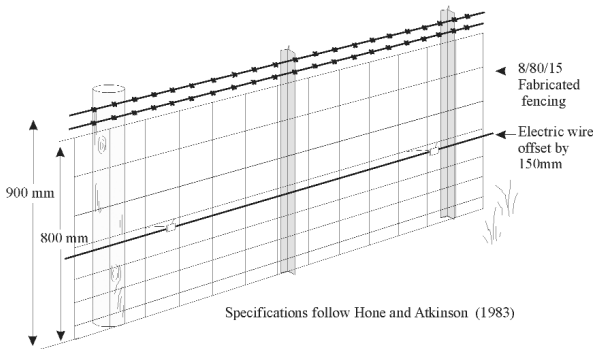
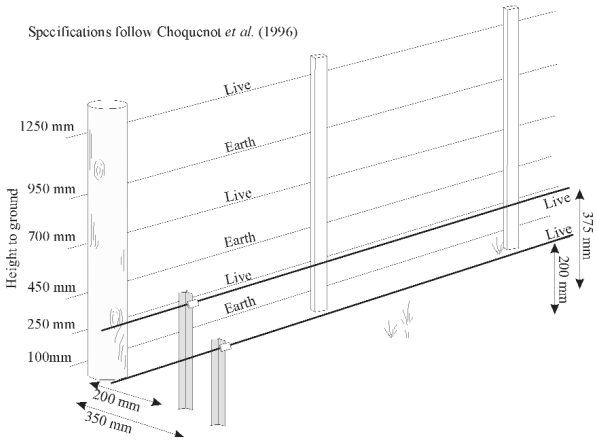


Figure 2: Electrified trip wire fence (Choquenot et al., 1996).



Clinical signs

The time between infection and the appearance of clinical signs of disease can range from about 1 week to 2 months. Signs that a herd has become infected are mainly those of reproductive failure – abortions, returns-to-service after mating and the birth of weak or stillborn piglets. Some sows may develop an infection of the uterus and show a vaginal discharge. Infected boars may develop swollen, inflamed

testicles (see the photo below). Both sexes may become lame with swollen joints and/or develop signs of incoordination and hind leg paralysis.

Swollen, inflamed testicles in a boar's scrotum resulting from B. suis infection.

Infection in humans

B. suis can infect humans and cause illness of varying severity. Symptoms, if present, are initially typical of a flu-like illness (fever, headache, back pain, generalised aches, night sweats). Occasionally, complicated cases develop with arthritis, chronic fatigue or inflammatory changes of male reproductive organs. Nervous signs (personality changes, convulsions, tremors, eye problems), anaemia, internal tissue damage or inflamed skin (dermatitis) can also occur. Infected people can be treated with antibiotics, but relapses may occur.

Control and prevention

B. suis is usually introduced into a herd via an infected animal or through the introduction of infected semen. Additions to non-infected herds should come from brucellosis-free herds. Prevent feral pigs from contacting domestic pigs by erecting pig-proof fences and by controlling feral pig populations. No vaccine is available for the control of *B. suis* infection in pigs.

People are usually infected by contacting infected animals or parts of those animals. In Australia, a number of infections have been reported in hunters who have handled tissues from feral pigs.

Reporting brucellosis in pigs

Brucellosis is a notifiable disease, and it is a legal requirement that any suspect cases are reported to your local veterinarian, State Government agency or the Animal Disease Watch Hotline 1800 675 888.

There are regulations preventing the uncontrolled movement of pigs from Queensland, WA (north of the Tropic of Capricorn) and NT (north of the Tropic of Capricorn) into NSW. Movement of pigs/semen from herds in these areas into other states will need proof that their herd is free from *B. suis*. Refer to Primefact 953 *Moving pigs into and within NSW*.

Further information

For further information on brucellosis in pigs, contact Dr Trish Holyoake on (02) 69 381 993, mobile 0419 231 534, or email trish.harvey.holyoake@industry.nsw.gov.au.

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