



# Cattle Producer's Handbook

Animal Health Section

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## Brucellosis Considerations for Western Beef Herds

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Brucellosis is a serious disease of cattle caused by the bacteria *Brucella abortus*. It can also affect swine, sheep, goats, horses, and humans. Brucellosis is a public health hazard that may be transmitted to humans in raw milk or by contact with aborted calves or their afterbirth.

In all but isolated areas of the United States, brucellosis is under control or no longer exists in cattle herds. This is because of the success of the National Brucellosis Eradication Program that includes vaccination, testing, and slaughter of infected cattle. However, it remains a threat to the beef cattle industry as it may still re-emerge from some isolated area to invade cattle herds.

The disease mainly affects sexually mature cows. Commonly, it causes abortion of late-pregnancy calves, retention of the afterbirth, and resulting poor-doing cows. The organism lives in the udder and the lymph glands. From there it invades the womb when a cow becomes pregnant. The organism causes gradual destruction of those parts of the fetal membranes that are responsible for maintaining the blood supply to the fetus. The viability of the fetus is progressively lowered until the calf is aborted.

If infection does not cause abortion, calves may be stillborn, weak, or even normal at birth. Calves born from infected dams usually do not keep the infection. However, a small number (about 5 percent) do retain the infection for life and will become antibody positive at first calving, and may spread the infection to other susceptible females.

### How the Disease Is Spread

Today, the most common source of brucellosis is by purchasing infected cattle. At calving, the disease is spread when unprotected cattle ingest *Brucella* microbes while licking contaminated fetuses, fetal membranes, fetal fluids, and discharges from infected females (Fig. 1).

Most cows that have aborted become carriers of the disease. They shed the organism for 2 to 4 weeks after



Fig. 1. Brucellosis is commonly spread within herds by cows licking contaminated fetuses or discharges.

calving, thereby infecting pastures and other cows that lick infested spots or discharges. Infected cows also excrete *Brucella* in their milk, potentially infecting a healthy calf.

Bulls can become infected but rarely transmit the disease. If infected, they may develop arthritis or an inflammation of the testicles leading to infertility. Bulls should be blood tested and culled if found positive. Vaccination is not recommended for young bulls because some may become infertile.

Brucellosis in wildlife species has not proved to be a problem for domestic cattle except under special circumstances. The disease persists in certain bison and elk populations in the western United States. While difficult to control inside the animal, *brucella* microbes do not survive in sunlight, high temperatures, or dry environmental conditions.