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Swine Brucellosis: How You Can Eradicate It

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SWINE BRUCELLOSIS

how you can
eradicate it



PA-467

U. S. DEPARTMENT OF AGRICULTURE

SWINE BRUCELLOSIS

how you can
eradicate it

Swine brucellosis is a bacterial disease that affects swine, other domestic animals, and humans. Severe exposure causes the disease in cattle, dogs, cats, and poultry. The disease can spread from one species of animal to another, and from animals to humans. However, it does not normally spread from one human to another, or from humans to animals.

The disease costs the swine industry about \$10 million a year. Losses due to human infection cannot be estimated. Although human brucellosis, or undulant fever, is difficult to diagnose—especially in mild cases—a total of 892 cases were documented in the United States in 1959. And the majority of these were due to human contact with swine.

Humans may readily contract swine brucellosis by direct or indirect contact with infected hogs, as well as by drinking raw milk from cattle infected with *Brucella suis*. Human brucellosis is also caused by *Brucella melitensis*, which is commonly found in goats, and by *Brucella abortus*, which affects cattle.

Where swine brucellosis is found . . .

This disease is found in the United States wherever hogs are raised. It is most prevalent in the hog producing States of the Midwest and South.

Cause of swine brucellosis . . .

The principal cause of brucellosis in swine is a bacterium known as *Brucella suis*.

Brucella suis spreads from one hog to another and from swine to man. It also spreads from hogs to cattle and then to man. In rare cases, it may spread from hogs to dogs, cats, and poultry, but

Herd history is important in interpreting the test. For example, on farms where swine brucellosis has been known to exist recently, animals that show a slight positive reaction to the blood test are considered infected. Had no previous infection been found—and no symptoms are apparent—such animals would be considered free of the disease.

How to prevent infection . . .

- **Validate your herd.** A herd is validated brucellosis-free after all animals 6 months of age or older pass two consecutive negative blood tests, 90 days apart. Herds are validated for 12 months and can be revalidated brucellosis-free if the entire herd is blood tested annually and found to be free from the disease.

- **Purchase boars—and other replacement breeding stock—only from validated brucellosis-free herds.** If boars must be purchased from nontested herds, blood test all new additions at the time of purchase and again 30 days later. Keep new boars isolated until both tests show them to be free from infection. This will provide some protection against introducing swine brucellosis into your herd.

Treatment . . .

No effective treatment for swine affected with brucellosis has been developed. Although some antibiotics may lessen the severity of symptoms, they will not cure the disease, and the cost would be prohibitive.

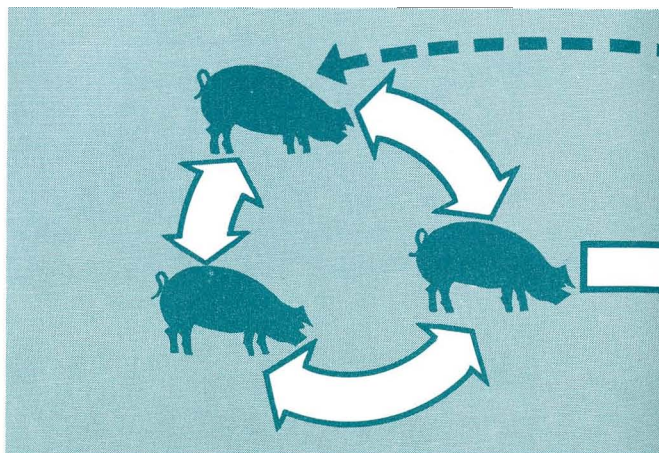
Nor can vaccination be used to prevent brucellosis in swine. Vaccine plays an important part in protecting cattle from brucellosis, but no vaccine has been developed to provide similar protection for swine.

How to eradicate infection from a herd . . .

If you do find infection in your herd, there are three alternate methods of eradication you can use. The plan you choose will depend on your individual operation.

Plan 1.—Recommended for commercial herds

1. Market the entire herd of swine for slaughter.
2. Clean and disinfect houses and equipment.



there are no known instances of these animals spreading *Brucella suis* to man or to hogs.

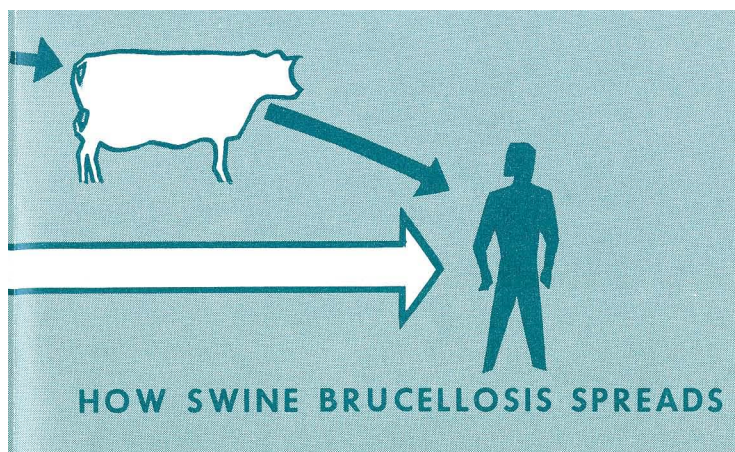
How the disease is spread . . .

- By breeding gilts or sows to an infected boar. This is one of the most common methods of spreading brucellosis in swine. Bacteria entering the reproductive tract of the gilt or sow during mating become established in the uterus and may spread to other parts of the body.

- Contact with infected animals. Bacteria enter the body through the alimentary canal, skin, or mucous membrane. Thus, susceptible animals can be infected by direct contact with infected animals or with aborted fetuses or discharges. Suckling pigs can contract the disease from infected sow's milk, but they generally recover before reaching sexual maturity. They can be reinfected by later exposure, however.

- Contaminated feedlots and pastures. This is a common source of infection since *Brucella* organisms have been known to live in the soil for as long as 121 days. Hogs can be infected by contact with feed, water, or soil contaminated with urine or droppings from infected animals. Contaminated feed bags and trucks, and streams contaminated by drainage from infected premises are also sources of infection.





Most human cases of brucellosis result from direct contact with infected hogs at the time of abortion, farrowing, or slaughter. Thus, farmers whose herds are infected and workers in slaughter houses that handle infected swine are most likely to contract the disease.

Symptoms . . .

Symptoms are not a reliable guide for detecting the disease because they may vary from animal to animal—and in some cases do not appear at all. For this reason, swine brucellosis exists in many herds without being suspected.

Here are the major symptoms:

Failure to settle.—Infected gilts and sows often come back into heat 4 to 8 weeks after breeding because of abortions which occur so early they are not noticed.

Abortions, weak pigs.—Abortions can occur at any stage of pregnancy. Birth of stillborn or weak pigs also is common. Sows that have aborted once usually farrow normal litters thereafter, even though they remain carriers and spreaders of the disease.

Lameness, stiffness of joints.—Infection sometimes localizes in joints and bones, causing joint swelling, lameness, and posterior paralysis.

Sterility.—Swine brucellosis can cause either temporary or permanent sterility in both sows and boars.

Don't wait for symptoms to appear. Blood test all adult animals in your herd on a regular basis. This is the only certain procedure available to determine if infection is present in your herd.

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Plan 1.—Recommended for commercial herds

1. Market the entire herd of swine for slaughter.
2. Clean and disinfect houses and equipment.

3. Replace with stock from validated brucellosis-free herds, placing them on clean ground.
4. Following two consecutive negative tests 90 days apart, the herd is eligible for validation.

Plan 2.—Recommended for purebred herds where it is desirable to retain valuable blood lines

1. Separate pigs from sows at 42 days of age or younger and isolate.
2. Market infected herd as soon as practicable. If sows are held for later litters, complete isolation is essential.
3. Test the gilts to be used for the following breeding season about 30 days before breeding. Save only those gilts which are negative. Breed only to negative boars.
4. Retest the gilts after farrowing and before removing them from individual farrowing pens. Should reactors be found, they should be segregated from the remainder of the herd. Select only pigs from negative sows for breeding gilts.
5. If herd is not negative at this time, the process is repeated. When the entire herd passes two consecutive negative tests 90 days apart, it becomes eligible for validation.

Plan 3.—Not recommended in general, but may be useful in herds where only a few reactors and no clinical symptoms of brucellosis have been noted

1. Remove reactors from farm.
2. Retest herd at 30-day intervals, removing reactors, until entire herd is negative.
3. Two negative tests, 90 days apart, qualify the herd for validation.
4. If the herd is not readily freed of infection, abandon this plan in favor of Plan 1 or Plan 2.

Prepared by
Animal Disease Eradication Division
Agricultural Research Service
U.S. Department of Agriculture
Washington 25, D.C.
September 1961

