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BRUCELLOSIS UPDATE

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Brucellosis or Bangs disease, Brucella abortus infection, in cattle is one of the most wasteful diseases that can strike cattle herds. The disease in cattle can cause abortion, retained afterbirth, a 20% reduction in milk production, and a decrease in reproductive ability of up to 40% in a cow's lifetime.

Today less than 1% of the cattle of this nation are infected with Brucella abortus. Many states have been declared Bangs free. Unfortunately over 90% of the remaining infected herds in the U.S. are in eleven states. These are Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Missouri, Mississippi, Oklahoma, Tennessee, and Texas.

Currently the Cooperative State-Federal Bangs program classifies areas according to the amount of infection in the area. These are as follows:

Non-Certified -- Infection rate above 1% of the cattle in 5% of the herds.

Modified Certified -- A county or area that has infection reduced to less than 1% of the animals, and not more than 5% of the herds is classified as Modified Certified.

Certified Free -- This classification is given when the incidence is reduced to 0, and during the previous 18 months the level was less than 0.2% of the cattle and less than 1% of the herds.

Six Oklahoma counties are currently Bangs free; all other countries are currently Modified Certified.

On January 1, 1982, the classification of states will be changed to the following:

Class A State -- Brucellosis free, with no incidence of the disease for the past 12 months.

Class B State -- State incidence of Brucellosis of 1% of herds or less infected with no county with more than 2% of the herds infected in the last 12 months. Counting is to start January 1, 1981.

Class C State -- All states not meeting one of the above criteria. That is, over 2% infection in any 1 county in the state.

It is important that Oklahoma obtain class "B" status because of the following regulations that will go into effect for interstate shipments of cattle on January 1, 1982. These are as follows for each state classification.

Any change of ownership requires a negative test or class "A" status.

Class A States -- Unrestricted movement for all classes of cattle moved in interstate and intrastate commerce.

Class B States -- One negative test within 30 days prior to movement on test eligible cattle, movement under permit from the state of destination, mandatory quarantine and a second negative test 45 to 120 days after arrival at destination. All to be done at owner's expense.

Class C States -- All test eligible cattle must be tested negative twice at least 60 days apart before movement. Movement under permit from state of destination with mandatory quarantine and a negative re-test in no less than 45 days or more than 120 days after arrival in state of destination. All testing to be done at owner's expense.

Brucella abortus can infect other species of animals such as dogs, sheep, pigs, horses, wild animals and man. All of these are "dead end" with the exception of infection when it occurs in horses.

When horses become infected with Brucella abortus, they exhibit a condition known as "Fistulous withers" or "Fistulo" and "Poll Evil." This appears as a draining abscess on the withers or head (poll) of the horse. Any horse exhibiting these symptoms should be promptly removed from contact with cattle and taken to a veterinarian for diagnosis and/or treatment.

When a horse is infected with Brucella abortus and it has been confirmed, many times the animal will relapse with the disease. Since man and cattle can become infected from this source, it is recommended that confirmed infected horses be destroyed.

Man becomes infected from handling infected discharges from infected animals. Slaughterhouse workers, livestock producers, and veterinarians have over 70% of human brucellosis.

Care and protection should be exercised anytime a human is called on to handle discharges from the reproductive tract or other fluids from infected animals. Drinking raw milk from infected cows can also be involved in bangs transmission to humans. The organism can penetrate the mucous membrane and cause infection, such as getting a drop of fluid into your eye or mouth while delivering a calf.

Transmission and Symptoms of the Disease

The organism is present in very high numbers in the reproductive tract of infected pregnant cows. When infected cows calve or abort, these organisms are spread on the premises with the fluids and tissues from the calving. Most infected cows will only abort once if at all. (These abortions usually occur 1 to 4 months after exposure and usually about 1/2 to 3/4 through the pregnancy.) It is very common for an infected cow to produce a live calf. When these calves are born or aborted, great quantities of organisms are present in the fluids and on the calf, and are ingested by other susceptible cows by licking either calves, aborted fetuses, or the genitals of infected cows.

Retained placentas, or "afterbirth", is very common when infected cows abort or give birth to live calves. Very weak calves, are sometimes seen, as are problem breeder cows.

In herds that become infected, the most common source of infection is purchase of infected or exposed cattle. This occurs when buyers do not buy negative tested cows and do not re-test these cows 60-120 days after the first test. This is very important because the incubation period for Bangs can be up to 120 days. Spread can also occur from neighbors' herds by contact through fences, cows escaping into neighboring pastures, and occasionally by dogs or wild animals dragging aborted fetuses or membranes onto a clean farm. Deer and most other wild animals have not been incriminated in transmission to cattle. Contaminated boots, clothing, equipment, or vehicles can also occasionally cause transmission.

Methods of Detecting Infected Herds

There are five basic ways of detecting Bangs disease in herds. These are: 1) milk ring test for dairy herds, 2) market cattle testing of breeding cattle at slaughter or first assembly, 3) testing all herds having contact with an infected herd, 4) testing by practicing veterinarians who either suspect infection or testing of cattle entering interstate commerce, and 5) testing all herds in areas of high incidence of infection.

There are several very reliable tests that can be used at these different points. Some of these are the milk ring test for dairies, card test, Rivanol, plate, and C.F. test. All of these tests are used on milk or blood serum and are very accurate in diagnosing the presence of antibodies in the cow.

With very few exceptions the following classes of cattle are tested. All slaughter cattle over 2 years of age except steers and spayed heifers are tested at slaughter. All cows and bulls not going to slaughter that are over 2 years old, or that calved or are springing, are tested prior to release from the sales yard.

In exposed or infected herds all cattle over 6 months of age must be tested except steers, spayed heifers, or official vaccinates of beef breeds under 24 months of age and official vaccinates of dairy breeds under 20 months of age.

Prevention of Brucellosis

There is no known cure for brucellosis in cattle. Sound management coupled with a proper vaccination program can, however, make a sound preventative program. All female calves of all breeds should be vaccinated at 4 to 12 months of age. Bull calves are not vaccinated for brucellosis. The U.S. Department of Agriculture (USDA) and Oklahoma Department of Agriculture Veterinary Services (ODAVS) recommend that all calves be vaccinated at no older age than 8 months of age if possible.

At this time, cost of vaccination for Bangs is being paid for by USDA and ODAVS. All the producer is required to do is take the calves to a licensed accreditated veterinarian who will vaccinate, ear tag, and tattoo each calf and complete a certificate of vaccination.

This certificate is mailed into ODAVS and the veterinarian is paid for his services through this agency.

Advantages

There are definite advantages to producers who have their calves vaccinated. These are:

1. Calves have more value as potential replacements due to their vaccinated status. If they are not used as replacements, there is no decrease in value, and does not cost the farmer.

2. Many states will not allow admission of unvaccinated females. Gives wider market potential.

3. Protects the herd from infection. Research has shown vaccinated herds, if they become infected, clean up faster and with fewer reactors than unvaccinated herds. For example, herds with 100% vaccination that become infected had less than 1% reactors and cleaned up in 6 months on the average. Herds with only a small percent vaccinated averaged over 20% reactors and nearly 3 years to clean up.

4. Much easier to move vaccinated calves into interstate commerce.

Some Pointers to Help Keep Your Herd Bangs Free

1. Raise your own replacement heifers or only buy test-negative cattle from known brucellosis-free herds.

2. Isolate and re-test all herd replacements 60 to 120 days following purchase.

3. Transport cattle only in vehicles that have been cleaned and disinfected.

4. Vaccinate female calves at the recommended age, or insist upon getting official vaccinates when buying replacement heifers.

5. Keep visitors out of livestock areas, and do not exchange bulls with a neighbor.

6. Keep fences in good repair; avoid use of community pastures.

7. Follow good sanitation practices on the farm; separate animals before calving if possible.

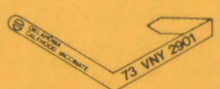
8. Regularly consult a veterinarian on herd health matters and get veterinary assistance immediately if cows abort or calve early.

9. Obey all quarantine and shipping rules.

10. Encourage others to cooperate in the fight to wipe out brucellosis.

To identify an official calfhood vaccinated calf in Oklahoma, look for the following things in the right ear of the calf:

Official Calfhood Vaccinate Tattoo



Orange-colored ear tag as illustrated above.

1st Digit -- Quarter of the year.

2nd Digit -- Official sign.

3rd Digit -- Last digit of the year.

The tattoo must always be present in official calfhood vaccinates. The ear tag may or may not be present due to possible loss of the tag or other form of permanent identification, i.e., registration tattoo or individual number brand.

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