

Current Report

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BRUCELLOSIS

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This material was prepared for the purpose of updating the information on the current status of brucellosis in Oklahoma and was compiled by the state and federal veterinarians in Oklahoma City and the Oklahoma State University Extension Animal Science Department.

Oklahoma was declared a modified-certified state on June 18, 1969. To attain this status, all cattle in the state must have been qualified by complete herd test or through the Market Cattle Testing (MCT) Program. The herd infection rate at time of certification was below 5%, and the animal infection rate was below 1% throughout the state.

At time of certification, June of 1969, there were 745 quarantined, infected herds under test within Oklahoma with a steady decline to 593 infected herds in October. Since October 1969 through May 1970, there has been a decline of 60 infected herds during this eight-month period. During this period, 480 of these herds were tested with a 60-day negative test and released from quarantine; however, 420 new herds were disclosed as being infected. It is obvious from these numbers that infected herds are being cleaned up daily, but newly infected herds are being disclosed at an almost equal rate.

These newly infected herds were disclosed through the State MCT Program. The MCT Program consists of identifying the eligible cattle moving through auction markets and stockyards with a numbered backtag which identifies the owner and county of origin. Blood samples are drawn at auction markets, stockyards, and slaughter establishments and tested for brucellosis. When a reactor is found, the owner is contacted by State-Federal

personnel and advised that he has sold an animal infected with Bangs disease. Arrangements are made for a herd test of all cattle to determine if there is further infection in the herd. Herds in which infection is disclosed are placed under quarantine which is to remain in effect until the herd has passed a negative 60-day test. This testing is done at State-Federal expense.

The negative MCT tests are applied toward recertifying the original owner's herd and county of origin. In order to be recertified, at least 5% of all breeding cattle within the county must be tested on the MCT Program each year. Any county not reaching this quota will lose its modified-certified status, and on-the-farm testing of herds will be necessary.

In addition, if the herd infection rate becomes greater than 5% or the animal infection rate above 1%, the county will lose its modified-certified status. This will make it extremely difficult to move cattle from this county and state to any other state. At the present time in some counties in southeastern Oklahoma, the animal infection rate is dangerously close to going over 1%.

In studies on newly infected herds, infection in better than 90% of these herds was introduced by purchased additions.

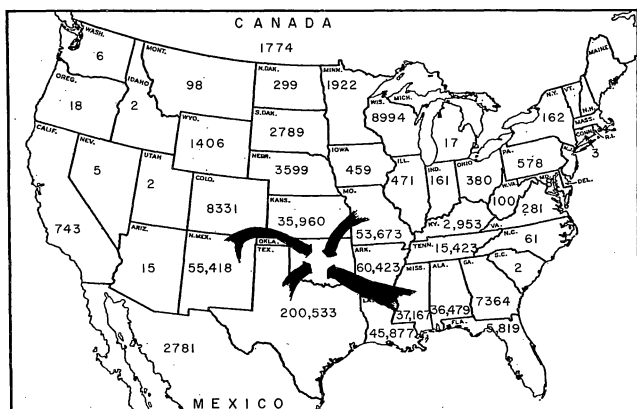
Bangs disease or brucellosis is a bacterial infection. It usually enters the animal through the gastro-intestinal tract through material contaminated by the organism. Bangs organisms are found in massive numbers from infected animals in the fetal membranes and

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uterine discharges 10 days before and 30 days after calving or abortion. Cows, being naturally curious, will quite often smell and lick aborted fetuses, infected fetal membranes, and uterine discharges of other cows.

In southeastern and southern Oklahoma where there has been an alarming increase in newly infected herds, much of this infection has been introduced into these herds by recent additions of cattle from adjacent states that have not yet achieved modified-certified status. The map below indicates the large number of cattle imported into Oklahoma annually.

STATE OF ORIGIN OF CATTLE IMPORTED INTO OKLAHOMA (1969)



U.S. DEPARTMENT OF AGRICULTURE
SOURCE: U.S.D.A.
Statistical Reporting Service

The following are actual case histories of cattlemen in the state who lost a substantial amount of money because they did not ask for proof of Bangs testing results on cattle they purchased.

Case History 1

This owner had started in the early 1960's in the cattle business, and gradually his herd grew to desired size. He culled some 30 cows from his herd and placed them in a cull pasture in December 1968. To replace these cull cattle, 40 cows were purchased in January 1969 from a cattle dealer in this state some 200 miles away. These cattle were bought as a group from a pasture and were represented as cattle needing to be sold to make purchase of some more land. The seller stated he never had Bangs, and these cows had been tested and were clean.

Two cows of this 40 purchased were considered as cull cows and placed in the cull herd. These cull cattle were sold at the local auction market in November 1969. One animal, which was one of those purchased in January, was a reactor. The owner decided at the sale to bring the rest of the negative cattle home from the sale under quarantine for retest rather than selling the entire group to slaughter or to another cattle owner under quarantine, as is his option under state requirements. The rest of his cattle were tested in December with one bull and four cows reactors in a total of 85 head. These cattle were retested in January 1970 with one reactor present. The cull cattle tested negative and were released from quarantine. The herd from which the reactor was found in January was retested in February and March with negative results and released from quarantine. All six reactor cows sold were among the 40 cows purchased in 1969, and five of these six cows did not calve or had aborted. The reactor bull was raised from a purchased calf and was four years of age.

Had this owner sold these cull cows to slaughter after the first test, he would have received \$4,464.00 instead of \$5,660.00 which he received after retesting the cattle and the release of quarantine. This would represent an additional \$1,196.00 loss.

The loss of \$1,987.49 could have been avoided had these 40 cows been tested at time of purchase as required by state law. The purchase would probably not have taken place. It was established later that many of the cows in this group had been purchased from a southern state shortly before sale. (See costs and sales of Case History One on opposite page)

Definitions

MCT Reactor - Brucellosis-infected animal found as a result of auction market test or sample taken at slaughter.

Exposed Cattle - Cattle which have been in contact with brucellosis-infected animals within the last 60 days. (This does not include fence line contact.)

Isolation - Animal or animals held separate and apart, preventing direct

<u>Costs</u> -	6 head purchased cows - January 1969 (sold to slaughter because of Bangs)	\$1,200.00
	Trucking on cattle to farm	50.00
	1 registered Hereford bull (purchase price)	500.00
	Trucking cull cows to and from auction	50.00
	Loss of 5 calves (from cows that did not calve or aborted)	700.00
	Trucking on reactors	25.00
	Feed and wintering on 5 cows (that aborted or did not calve)	250.00
	Calf from banger if sold at weaning	140.00
	Labor and equipment to test cattle	200.00
	Weight loss on cows and calves when testing (79 calves @ 10 lbs. = 790 lbs. @ 32¢)	253.00
	Total	\$3,368.00
<u>Sales</u> -	1 reactor found at auction	\$ 142.20
	1 registered Hereford bull plus indemnity	440.37
	5 purchased reactor cows plus indemnity	775.09
	1 calf sold from reactor cow	22.85
	Total	\$1,380.51
	Total Loss	\$1,987.49

contact with other breeding stock.

Quarantine - Enforceable order preventing movement of cattle except under authorization by special permit.

Identification - Preferably permanent identification as to registered brands, ear tags, tattoos; occasional temporary identification by paper tags by which cattle can be identified individually.

Q. If a person wants to buy and sell breeding stock, how long is one negative test valid for legal movement?

A. Blood test is valid for 30 days from date sample is drawn. If cattle are offered for sale after 30 days, another negative test is required.

Q. What cattle are required to be tested?

A. All breeding cattle eight months of age or over except brucellosis-vaccinated heifers under 24 months that are offered for sale or sold.

Q. How long does it take to get a blood sample tested for brucellosis?

A. Blood samples are routinely tested the same day they are received in the laboratory with results placed in the evening mail.

Q. Can a person legally buy exposed cattle?

A. Yes, if the following conditions are met:

1. Cattle are quarantined and must be isolated from all other breeding animals.
2. Cattle must be retested in 60 days.
 - a. Additional reactors found at time of retest are not eligible for indemnity.
 - b. Animals remain under quarantine until all have passed a 60-day negative test.
3. If quarantined exposed cattle are not isolated from other breeding cattle, the entire group will be under quarantine subject to a negative 60-day retest.

Q. Can a person sell cattle if a reactor is found in his herd?

A. Yes.

A. Cattle can be sold directly to slaughter under permit.

B. Negative cattle can be sold as a group to another individual under quarantine by permit agreeing to hold all cattle for a 60-day negative retest.

Q. Does Brucellosis affect dairy cattle and swine?

A. Yes.

A. It affects dairy cattle more than beef cattle because of daily contact at milkings.

B. Swine can also be carriers of brucellosis.

Q. Is one negative blood test adequate assurance that an exposed animal or animal out of a herd of unknown status is free of brucellosis?

A. No. In order to be assured that the animal is free of the disease and has not been exposed, it should be retested in 60 days.

Case History II

In October 1967, 50 head of Angus cattle were purchased at a special cow sale in Texas by a cattleman to increase his herd size. These cattle were sold as performance tested cattle and entered Oklahoma on a health certificate represented as coming from a modified-certified county. These cows were put into pastures

with 134 other cattle. Forty-nine negative Market Cattle Testing results were received from 1965 to 1967 on these 134 head. The 50 purchased cows started calving in November 1967, and that year 42 cows calved and eight cows aborted or didn't have healthy calves.

The bulls were put into the herd the following March, and many of the cows didn't breed back. The calving resumed in December 1968, and 24 cows lost calves or did not calve.

A positive Market Cattle Test reactor was sold at an auction on February 1969. In April, three herds of cattle consisting of 184 cows and bulls were tested, revealing 27 reactors. The herds were tested in July with an additional two reactors and retested negative in October. The bull herd was tested in October, revealing one reactor and retested negative in December. A total of three registered bulls were reactors which on some tests were tested with the cows. A total of 30 reactors were promptly removed from this herd.

The loss of \$10,834 could have been avoided had these 50 cows been brucellosis tested on entering Oklahoma as now required by the State Veterinarian. The purchaser would probably have rejected these animals and not completed the purchase.

<u>Costs</u> -	24 head performance tested cattle @ \$210/hd	\$ 5,040.00
	Trucking on cattle to farm	30.00
	2 Charolais cows @ \$190	380.00
	3 registered bulls @ \$400	1,200.00
	1 purebred Angus cow @ \$205	205.00
	Trucking of reactors	140.00
	Commission on sale of reactors @ \$7.00	210.00
	Labor and equipment to test cattle	600.00
	Loss of 8 calves 1968 (cows aborting or failing (to breed at weaning age @ \$135)	1,080.00
	Feed and wintering on 8 cows (1968)	560.00
	Loss of 27 calves (1969) (cows aborting or fail to breed) at weaning age average \$148	3,896.00
	Feed and wintering on 27 cows (1969)	1,890.00
	Weight loss on cows and calves when testing 150 calves @ 10 lbs.	960.00
	Total	\$16,191.00
<u>Sales</u> -	24 performance tested cows plus indemnity @ \$171	\$ 4,104.00
	2 Charolais cows plus indemnity	410.00
	1 purebred Angus cow plus indemnity	171.00
	3 registered bulls plus indemnity	672.00
	Total	\$ 5,357.00
	Total Loss	\$10,834.00