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BRUCELLOSIS, A DISEASE OF RUMINANT ANIMALS, IS REPORTED IN MINK

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A COSTLY DISEASE which previously has been known mainly in ruminant (multi-stomached) animals has been identified in mink herds. This report is by two staff members of the Department of Agriculture's veterinary sciences research division based at Pullman, Wash. (Hagen & Gorham) and a veterinarian with the USDA animal health division located at Boise, Idaho (Prichard). This article supplements an earlier report by the authors which appeared in the Sept. 1, 1971, issue of the Journal of the American Veterinary Medical Association.

Brucellosis (Bang's disease) is a contagious bacterial disease that occurs chiefly in cattle, swine, goats, and sheep. The bacteria enter the host either by mouth or by invasion of the mucous membranes. Once established, they cause abortion in the female and reduced fertility in both sexes. Brucellosis in mink has been recorded only in European literature. 1,2,5,7

Infected beef scraps and feed containing infected sheep byproducts were incriminated as sources of the bacteria for those mink farms. Two unreported studies of the disease also were made on Wisconsin farms in 1966 and 1967. 3,8

Scope of Infection

The prevalence of brucellosis in mink in the United States is not known. Serologic screening procedures are not conducted routinely; abortion or poor production usually is attributed to environmental influences, inadequate nutrition, viruses, and bacteria other than *Brucella*.

Mink are fed a variety of foods, including chicken, horse, sheep, pig, cattle, and rabbit byproducts; mink often serve as an indicator host for contaminated feed.

Brucellosis in Idaho

In June of 1969, an Idaho veterinarian diagnosed a *Brucella abortus* infection in a local mink herd. Dairy and beef cattle under the same management had been quarantined for brucel-

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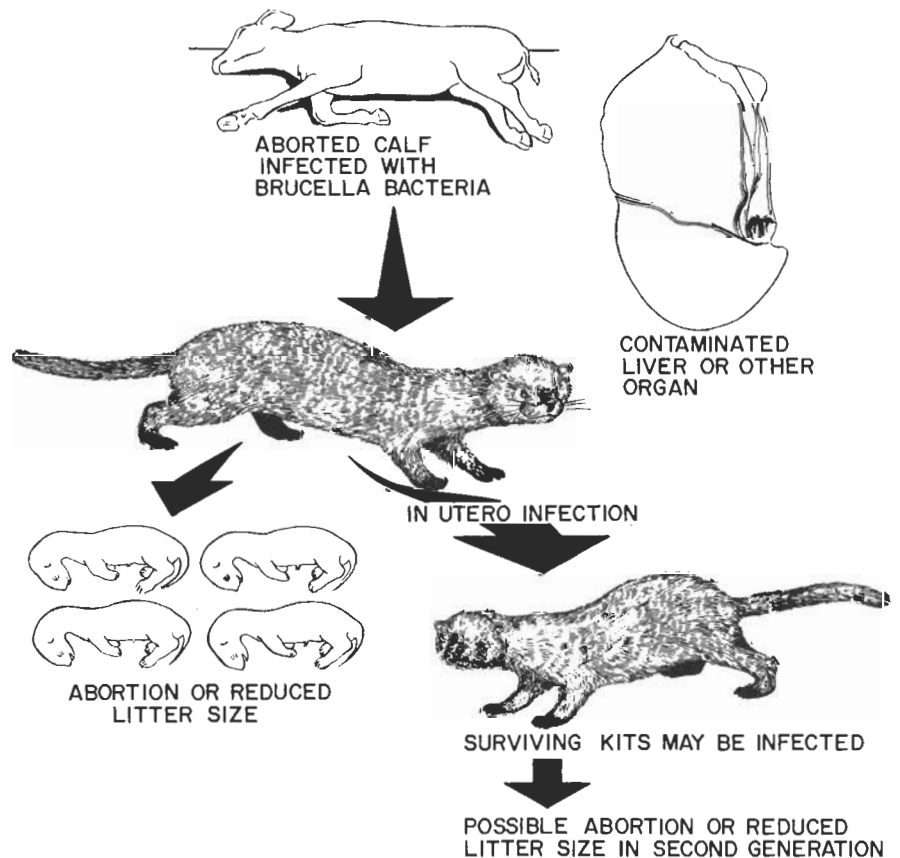
losis several months earlier. The disease probably was transmitted to the mink by feeding of an aborted bovine fetus.

Disease signs were abortion, small litters, and death of young kits. In the colony of 600 females, the mean kit survival rate was two kits per litter.

Blood serum from aborting female mink and non-producing females yielded positive results to the brucellosis card test and *Brucella abortus* bacteria were recovered from several of the positive males and females. After the widespread infection was apparent, the owner decided to pelt out; this effec-

tively disposed of the carrier animals.

Eleven of the infected females were taken to the experimental fur farm at Washington State University and bred to known brucellosis-free males. Seven either failed to conceive or aborted; the other four had litters of varying size. One of a litter of six kits pro-



duced was infected with brucellosis, indicating that transmission *in utero* had occurred.

Screening Procedures

Brucellosis screening has been applied most extensively to cattle. Milk samples collected from dairy herds at the milk processing plant can be analyzed. In non-dairy beef herds, blood is tested from non-productive surplus adult cattle at markets and slaughterhouses.

The brucellosis card test is a useful field test for the veterinarian in detecting infected mink.⁴ Blood is collected from each animal, and a drop of plasma is mixed with *Brucella* antigen on the card.

Any definite clumping observed on the card is considered positive.

References Cited

- 1) Allegri, L., Socci, A. & DiNatale, M.: Isolation of *Brucella Abortus* From the Organs of Mink, epidemiological considerations. G. Mal. Infett. Parasit., 21, (1969):708-710.
- 2) Bisping, W. & Loliger, H. C.: Brucellosis in Mink. Proc. 17th World Vet. Congr., Hanover 1, (1963):445-449.
- 3) Espe, B., Animal Health Division, USDA, Oklahoma City, Okla.: Personal communication, 1969.
- 4) Nicoletti, P.: Utilization of the Card Test in Brucellosis Eradication. J.A.V.M.A., 151, (December, 1967):1778-1783.
- 5) Oyrzanowska, J.: Trzyprzypadki Brucelozyu Norck. Medycyna Wet., 16, (1960):159-160.
- 6) Prichard, W. D., Hagen, K. W., Gorham, J. R. & Stiles, F. C.: An Epizootic of Brucellosis in Mink. J.A.V.M.A., 159, (Sept. 1, 1971):635-637.
- 7) Rementsova, M. & Postricheva, O.: Brucellosis in Mink. Krolikov Zverov., 8, (1965):28-29. (Vet. Bull. 36:876, 1966).
- 8) Whiting, R., Animal Health Division, USDA, Madison, Wis.: Personal communication, 1969.

Prevention Best

No practical treatment has been found for brucellosis; efforts therefore should be directed toward control and prevention. The individual confinement of mink usually prevents possible spread of brucellosis to other domestic animals or within the mink herd. Feeding of beef scraps from probable sources of infection should be avoided.

Most infection can be eliminated from herds by disposal of the adults at pelting time.

This prevents contact transmission to new stock, as well as *in utero* transmission to succeeding generations of kits. Aborted fetuses should be removed immediately. As with all bacterial diseases, strict sanitation measures should be employed.