

What is tuberculosis?

Bovine TB is an infectious disease that is caused by the bacterium *Mycobacterium bovis* (*M. bovis*). Bovine TB primarily affects cattle; however, other animals may become infected. *M. bovis* causes a disease that can be transmitted between wildlife populations and food animals (e.g., cattle). Disease due to *M. bovis* in animals typically presents in the lungs but may also occur in the intestines and other parts of the body.

Tuberculosis in humans is usually caused by *Mycobacterium tuberculosis* (*M. tuberculosis*). *M. tuberculosis* is the single greatest cause of infectious disease in humans worldwide. In humans, tuberculosis is usually contracted by inhaling the bacteria and it occurs most often in the lungs. Humans can be skin-tested to determine if they are infected with TB. These tests can be done at either the local health department or a private physician's office. A positive skin test, however, does not identify the type or source of the infections.

How is bovine TB transmitted?

Bovine TB is spread primarily through the exchange of respiratory secretions between infected and uninfected animals. This transmission usually happens when animals are in close contact with each other. Over 95% of bovine TB cases are the result of direct contact with infected cattle. Animals may also become infected with TB by ingesting bacteria, most often through contaminated feed and water. Thus, animal density plays a major factor in TB transmission. The organism can remain viable in the environment for 6-8 weeks depending on temperature and humidity. Only 1-5% of infected cattle shed the organism in their milk. Transmission from infected dam to calf can occur through the consumption of the dam's milk.

Farm employees in contact with infected cattle may serve as carriers of the bacterial agent on their clothing

or shoes. In rare cases, humans infected with *M. bovis* TB can transmit the disease to cattle through sputum and urine.

What are signs of the disease?

TB is a slowly progressive disease often taking months or years to develop. Cattle with bovine TB infection are without clinical signs 90% of the time, but may eventually exhibit weight loss and a gradual decline in general health. If present, clinical signs may include cough, production loss, rough hair coat, chronic weight loss, variable appetite and fluctuating fevers.



Are there any risks to Public Health?

Regulations for milk pasteurization temperatures are designed to protect consumers from contracting bovine TB. *M. bovis* can spread to humans through the consumption of raw milk or unpasteurized or improperly pasteurized dairy products from infected animals.

What is the significance of this disease?

Bovine TB is of great concern to the Kentucky cattle industry. The most significant concerns are the potential human health risk and the potential establishment of infection in a wide range of hosts including free-roaming wildlife. The presence of bovine TB in the state may lead to additional testing requirements prior to cattle movement out of the state.

Are there current eradication efforts in the US?

The current program relies on two strategies for the detection of bovine TB.

- Live Animal Surveillance: Field veterinarians conduct the caudal fold skin test on cattle for interstate movement, herd accreditation and disease investigations. Animals with a response to the initial caudal fold test are subject to additional confirmatory testing by regulatory veterinarians.
- Routine Slaughter Surveillance: Cattle slaughtered at state and federally inspected slaughter plants are inspected for granuloma lesions. Suspect lesions undergo laboratory diagnostics to confirm presence of *M. bovis*. Any carcass with TB confirmed lesions are not used for human consumption. Additionally, the herd of origin for the condemned carcass is TB tested.

What happens to an animal detected of TB infection?

When an animal in a herd is confirmed as infected by laboratory testing, the herd is classified as an affected herd. This herd is placed under quarantine and TB tested to determine the presence or absence of other infected animals. Additionally, epidemiological tracing of cattle movement into and from the affected herd is performed and additional contact herd testing is conducted.

On Farm Prevention for TB

Cattle producers, in consultation with the herd veterinarian, should develop and implement a herd health program, which includes prevention of bovine TB. Importation of cattle, particularly breeding stock, stocker cattle, and roping/rodeo stock, can pose a significant disease threat to your herd. Record individual animal identification and maintain accurate records to enhance disease tracing.



To decrease the risk of TB:

1. Maintain a closed herd, if possible.
2. Isolate and test purchased additions
3. Isolate and test cattle re-entering the herd (i.e. contract-raised heifers).
4. Enhance and enforce premises biosecurity to prevent contact with cattle of unknown TB status.
5. Raise replacement heifers in areas kept entirely separate from feeder cattle and cattle of Mexican origin
6. Prevent commingling of replacement heifers with feeder cattle, including in the sick pen.
7. Have diagnostic workups of suspicious sick or dead animals performed using services of your veterinarian and the Kentucky Department of Agriculture.
8. Establish a TB testing policy for employees.

**Your veterinarian is an excellent source of information on bovine TB.
For more information contact:**

**Kentucky Department of
Agriculture
Office of State Veterinarian**
100 Fairoaks Lane, 2nd Floor
Frankfort, KY 40601
(502) 564-3956

<http://www.kyagr.com/statevet/index.htm>

**United States Department of
Agriculture
Veterinary Services**
106 Corporate Dr, Suite H
Frankfort, KY 40602
(502) 848-2040

For Public Health Questions Contact:

**Kentucky Department of
Public Health,
Public Health Veterinarian**
(502) 564-3418

-Or-

Your Local Health Department



**Kentucky
Department of
Agriculture**

Bovine Tuberculosis

**Information for Livestock
Producers**



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