



## Frequently Asked Questions On

### Bovine Tuberculosis

Prepared by the Canadian Cattlemen's Association

*Based on information available as of July 22, 2002.*

#### 1. What is Bovine Tuberculosis?

Tuberculosis (TB) is the common name of a contagious disease of both humans and animals. There are three types of bacteria that cause three different strains of TB that primarily affect different species of animals.

*Mycobacterium tuberculosis* primarily affects humans but can also be transmitted to hogs, cattle and dogs. *Mycobacterium avium* affects all species of birds, and can be transmitted to hogs, cattle, dogs and cats. *Mycobacterium bovis* causes Bovine Tuberculosis, which affects cattle and can be transmitted to all warm-blooded vertebrates including wildlife and, occasionally, humans.

#### 2. What are the symptoms of Bovine Tuberculosis in cattle?

Bovine TB is a chronic disease that rarely shows symptoms until it reaches an advanced stage. The disease can lie dormant in an animal for many years. In most cases the cattle producer is unaware livestock have been infected until signs of the disease are found in an animal at the packing plant. Signs of the disease found at the packing plant are usually lesions in lymph nodes or internal organs (i.e. lungs).

In advanced stages of TB in a live animal, the main symptom is gradual loss of condition despite adequate nutrition. Other symptoms may be low-grade fever, enlarged lymph nodes (i.e. in the neck), and difficulty breathing. If the lungs are affected, a hacking cough may be present.

#### 3. How is it spread?

Animals with active TB can spread the disease to other animals through shared feed and water (i.e. water troughs). Coughing can also spread the disease, when live bacteria are carried on droplets of saliva or mucous coughed into the air. It may also be spread by manure deposited by the animal onto a pasture. Calves may be infected through drinking milk from an infected animal. (Pasteurization of milk kills TB bacteria).

#### 4. How may Bovine Tuberculosis affect humans?

While it's possible for Bovine TB to be transmitted to humans, the likelihood of it happening is remote. Those at greatest risk are cattle producers or veterinarians working with infected animals, especially in enclosed spaces such as barns. It's recommended that anyone exposed to TB-infected animals be tested for TB by means of a skin test administered by a physician. TB in humans is treatable with antibiotics.

TB bacteria in milk is destroyed by pasteurization. This is one of the main reasons pasteurization was introduced in the dairy industry many years ago when Bovine TB was more widespread. Drinking unpasteurized milk is not recommended due to potential exposure not only to TB but also to other disease-causing organisms.

Exposure to TB through the contamination of meat of an infected animal is highly unlikely. Meat inspection procedures ensure that infected animals are removed from the food chain. Adequate cooking destroys bacteria in meat.

**5. How is Bovine Tuberculosis diagnosed in live cattle?**

When there is a suspicion of exposure to Bovine TB (i.e. a herd mate has been diagnosed with the disease, or another herd in the immediate vicinity has been diagnosed positive) cattle are given a tuberculin skin test. Tuberculin purified protein derivative is injected in either the skin of the mid-neck or the skin around the base of the tail. A veterinarian will then check the injection site three days later. Swelling at the site of the injection indicates the animal has been exposed to TB.

**6. What happens if Bovine Tuberculosis is diagnosed in a cattle herd?**

The herd in which the diagnosis is made (“index herd”) is immediately quarantined and a trace-out implemented by CFIA on any cattle that have left the herd within the previous three years. All cattle in the index herd are eradicated, as mandated under the Federal Health of Animals Act. Compensation is paid for all animals destroyed.

Disinfection of handling facilities on the farm must be carried out by the owner and approved by CFIA. The herd may not be restocked until 30 days after disinfection is completed. If the herd is restocked prior to one year after depopulation, then replacement animals must be tested for TB at specified intervals for a period up to four years. If the herd is not restocked until a year has passed, then testing of replacements is not required.

**7. What is the role of wildlife?**

It’s believed that Bovine TB was introduced into wildlife populations through contact with domestic animals. Results from hunter surveys in certain areas as well as capture and testing of wild animals indicate the disease is not commonly found in wildlife.

However certain wildlife populations, notably the elk population in and around Riding Mountain National Park in Manitoba and the bison population at Wood Buffalo National Park in Alberta, have been shown to be a reservoir of the disease. From 1992 to 2001, 10 elk in the vicinity of Riding Mountain National Park were found to have Bovine TB. Transmission of the disease from elk is believed to be the source of diagnosed cases in cattle in that area in 1997 and 2001.

**8. What is the Bovine Tuberculosis status of the Canadian cattle herd?**

Canada’s *Health of Animals Regulations* currently recognizes TB eradication areas as being provincial boundaries. The normal status for all Canadian provinces is TB-free. However, despite ongoing Bovine TB eradication efforts in place in Canada for decades, TB is still diagnosed occasionally in Canadian cattle herds.

Under current Canadian Food Inspection Agency (CFIA) policy, which reflects international standards, an eradication area is considered TB-free if it reports no more than one TB-infected herd in a five year period. Currently all provinces in Canada are classified as TB-free except Manitoba, which is classified as TB-accredited due to positive diagnoses in cattle herds in the vicinity of Riding Mountain National Park in 1997 and 2001. TB-accredited means the number of cattle affected by TB in the province does not exceed 0.2 percent of the total cattle population of the province. (TB was confirmed in an Ontario dairy herd in April, 2002. This is the first case of Bovine TB in Ontario since 1992 so Ontario retains its TB-free status, unless a second case is diagnosed within the five-year period.)

**9. How does Bovine Tuberculosis impact trade?**

Since 1997 the United States Department of Agriculture (USDA) has recognized all cattle herds in Canada, except those under active quarantine, as TB-free. This means Canadian cattle have not required a TB test to enter the U.S. since that year. (The U.S. is Canada's largest export market for cattle and beef.) The USDA has re-examined this rule in light of its own struggles with TB outbreaks in Michigan and Texas, and movement controls imposed in those States. On July 17 the USDA issued a directive that as of August 17, all breeding cattle and farmed bison that have been in Manitoba must be tested for Bovine TB before being shipped into the U.S. from any province. (Cattle going direct to slaughter are not affected.)

Many details are still to be determined. Further information will be forthcoming.

**10. What is zoning?**

CFIA is working to develop new regulations that would allow an area within a TB eradication area to be zoned separately from the rest of the eradication area. This would allow the eradication area outside the zone to retain its TB-free status while cattle from within the zone are required to meet more stringent requirements, such as TB testing prior to export.

This option is being actively considered for the area around Riding Mountain National Park. CFIA is currently working with Manitoba Agriculture, the Manitoba Cattle Producers Association, and the Canadian Cattle Identification Agency to develop protocols for the movement of cattle in and out of the proposed zone.

**11. How is the issue of reservoirs of Bovine TB in wildlife being addressed?**

Parks Canada has responsibility for wildlife within National Parks, and the provincial governments have responsibility for wildlife outside National Parks. CFIA, Parks Canada, Manitoba Agriculture and Manitoba Conservation have developed a Bovine TB Management Plan to address the problem of diseased wildlife in the Riding Mountain National Park area and implement measures to reduce risk of spread of infection to livestock. Improvement of wildlife habitat, construction of barrier fencing, and reduction of elk herd size are all being considered or implemented in an attempt to control the disease reservoir.