Bovine Tuberculosis Q &A

1. **What is bovine tuberculosis (bTB)?**

   Bovine TB is a contagious disease caused by the bacterium *Mycobacterium bovis*.

2. **What species of animals can be affected?**

   Bovine TB primarily affects cattle, but it can be transmitted to nearly any mammal. In some circumstances, bTB can infect humans.

3. **Where does bTB occur?**

   The disease is found throughout the world, but is more prevalent in most of Africa, parts of Asia and parts of the Americas. Many developed countries have reduced bovine TB from their cattle population. The disease was once common in cattle within the United States but has nearly been eliminated from the country's livestock population, but the goal of complete eradication remains elusive in the U.S. as animal health officials continue to detect TB sporadically in livestock herds.

   Bovine TB is considered endemic in wildlife in parts of Hawaii, Michigan, Alberta, and Manitoba. Sporadic cases of the disease have been reported in free-ranging wildlife in Montana, New York, Minnesota, Indiana and Ontario. Wildlife data is lacking for Mexico, but unconfirmed cases have been reported in white-tailed deer.

   In October 2016, the Canadian Food Inspection Agency (CFIA) determined that a case of bTB in a beef cow was linked to a premises northwest of Medicine Hat, Alberta. The *M. bovis* strain in case appears to be related to strains found in Mexico. Detection of the disease in this location has raised concerns about the possibility of bTB in a large population of elk associated with Canadian Forces Base (CFB) Suffield, which is approximately 100 miles from the northern border of Montana. Alberta Environment and Parks combined sampling for bTB with their CWD surveillance during the past hunting season. Test results are still pending.

   In 2017, bTB was detected in cattle in Harding (NW corner) and Tripp (South-central) South Dakota. South Dakota Game, Fish and Parks conducted wildlife surveillance on and around the infected premises and did not detect infected wildlife. The agency plans to implement a long-term surveillance plan in that area. The *M. bovis* strain detected in Harding county was nearly identical to a strain only seen previously on a dairy farm in central Mexico. The Tripp county strain also appears to be related to *M. bovis* strains found in Mexico.

4. **Does bTB occur in Montana?**

Bovine TB was detected in at least 6 game farms in Montana in the early 1990's. Farmed fallow deer were detected historically in Sheridan and Richland counties. Farmed elk were detected in Granite, Park, Bighorn, and Carter counties. In 1993, after bTB was confirmed in captive elk on the Bighorn county game farm, an effort was put in place to survey free-ranging wildlife for the disease. As part of this effort, 41 mule deer and 3 white-tailed deer were collected from an adjacent cattle ranch from November 1993 through January 1994, and samples were submitted for bTB testing. Two mule deer had suspicious lesions consistent with bTB infection. *M. bovis* was isolated from lymph nodes of one of those deer. *M. bovis* has also been detected in a few coyotes in that area. In August 1994, additional wildlife surveillance efforts were carried out. 130 mule deer, 15 white-tailed deer, 15 coyotes, 1 pronghorn antelope, 1 elk, 3 porcupines, and 1 rabbit were collected. Bovine TB was detected in one of the 15 coyotes sampled during this effort. In 1995, 7 coyotes were collected for testing, and bTB was detected in one of the seven coyotes. Little wildlife surveillance was conducted around the other game farms, in part due to low wildlife densities in those areas.

Since that time, FWP has tested animals with lesions similar to those caused by bTB, and the disease has not been detected.

5. **What are the impacts of bTB in wildlife?**

There are no documented cases of bTB causing cervid population declines. The impacts of aggressive management in endemic areas often has a much greater impact on deer survival than mortality resulting from this chronic disease.

6. **What are the impacts of bTB in cattle?**

States with bTB cases in cattle and/or wildlife experience significant negative economic impacts on the livestock industry and may be subject to increased regulation and requirements for interstate movement of livestock.

7. **How is the disease transmitted between or among cattle and wildlife?**

The primary pathway for transmission between cattle and deer is believed to be through indirect contact during shared feeding.

8. **What are the impacts of bTB in humans?**

Bovine TB (*M. bovis*) is not the major cause of human tuberculosis, which is caused by *Mycobacterium tuberculosis*, but humans are susceptible to bovine TB. Humans can be infected by drinking raw milk from infected cattle, inhaling infective droplets from an infected animal, or by contact with infective body fluids via open wounds. Bovine Tb (*M.*

bovis) accounts for <2% of tuberculosis cases in the United States. There has been at least one confirmed case of transmission of bTb to a human from an infected white-tailed deer. In that case, the hunter was believed to contract the contact with the deer's bodily fluids with an open wound during the field dressing process.

Not all *M. bovis* infections progress to TB disease, so there might be no symptoms at all. In people, symptoms of TB disease caused by *M. bovis* are similar to the symptoms of TB caused by *M. tuberculosis*; this can include fever, night sweats, and weight loss. Other symptoms might occur depending on the part of the body affected by the disease. Not everyone infected with *M. bovis* becomes sick. People who are infected but not sick have what is called latent TB infection (LTBI). People who have LTBI do not feel sick, do not have any symptoms, and cannot spread TB to others. However, some people with LTBI do eventually develop disease from the bacteria.

For example, disease in the lungs can be associated with a cough, and gastrointestinal disease can cause abdominal pain and diarrhea. If untreated, a person can die of the disease.

9. How can a hunter protect him/herself from bTB?

Hunters should always wear rubber gloves when field dressing a harvested animal. Hands and instruments should be washed thoroughly after field dressing is completed. Hunters should not harvest animals that look sick. If an animal that is harvested but appears sick during field dressing, the hunter should report to FWP.

10. What is FWP doing about bTB?

FWP performs examinations and testing of animal carcasses that are suspected of being diseased. In some areas, FWP collects lymph nodes from hunter-harvested cervids for examination and testing for bTB.

11. What can you do to help?

Report any sick looking animal to FWP.