# *UPDATE: MICHIGAN'S BOVINE TUBERCULOSIS PROBLEM*

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Bovine tuberculosis (TB) is a contagious, infectious, and communicable bacterial disease that mainly affects the respiratory system. It is capable of infecting most warm-blooded animals, and commonly affects cattle, bison, deer, and elk. It is spread primarily by close contact and intensified by confined or crowded environmental conditions. According to the Michigan Department of Agriculture (MDA), although the bacteria could be transmitted from animals to humans, it is highly unlikely that a person would contract the disease from field dressing or from eating the adequately cooked meat of an infected animal.

## Outbreak

A hunter-killed deer in southwestern Alpena County was discovered to have bovine tuberculosis in 1994, and bovine TB was confirmed in free-ranging (wild) deer in the northeast Lower Peninsula in 1995. The U.S. Department of Agriculture (USDA) has stated that while there have been numerous cases of bovine TB in domestic livestock and captive deer/elk herds in the United States, the disease has never before been determined to be self-sustaining in free-ranging wildlife in North America.

According to the Michigan Department of Natural Resources (DNR), however, in an Enforced Restriction Area, as of February 1999, 228 white-tailed deer out of 17,195 tested were infected with bovine TB; six cattle out of 25,000 tested were infected; and five coyotes out of 67 tested, two racoons out of 47 tested, and one black bear out of 42 tested were infected. Outside the Enforced Restriction Area, no deer was infected with bovine TB from over 15,000 tested, and no elk out of 390 tested was infected. (The Enforced Restriction Area covers public and private lands in the northeastern part of the Lower Peninsula in an area east of I-75 and north of M-55, including the five counties of Alpena, Alcona, Montmorency, Oscoda, and Presque Isle, as well as portions of Cheboygan, Crawford, Iosco, Ogemaw, and Roscommon Counties.)

Apparently, scientists agree the spread of bovine TB in free-ranging deer is confined to the Enforced Restriction Area due to abnormally high deer population and frequent nose-to-nose contact at supplemental feeding sites. Supplemental feeding consists of placing a variety of foodstuffs, including carrots, sugar beets, corn, and hay, in large piles and allowing wildlife free access to these products. This practice brings together a large number of deer for a prolonged period of time, which exacerbates the inhalation of bacteria or consumption of feed contaminated with bovine TB.

## Eradication Strategy

In March 1998, the Michigan Agriculture Commission issued an Enforced Restriction Area Order imposing a mandatory feeding ban, and the Natural Resources Commission approved an order implementing restrictions on baiting (placing or scattering food to attract deer). In addition, the DNR has issued 130,000 additional antlerless deer licenses in an effort to eliminate half of the deer herd in the quarantine area. By halting supplemental feeding, restricting baiting, banning the establishment of new deer/elk herds, and reducing the overall deer population in the Enforced Restriction Area, the Departments hopes to lower deer concentrations to their natural carrying capacity and reduce the risk of transmitting bovine TB among animals. The MDA also has developed and implemented a surveillance program for bovine TB in the 27 captive cervidae (captive cervidae are deer, elk, moose, and caribou living under the husbandry of humans) herds within the Enforced Restriction Area. All herds were issued quarantines and movement restrictions were initiated pending surveillance results.

## Accreditation Status

For a state to establish or maintain status as an accredited TB-free state, it must have no confirmed findings of bovine TB for at least five years, must have a set of stringent laws and regulations governing livestock dealers, and must require an active surveillance program with extensive multiyear testing and removal of infected cattle. Detection of any bovine TB could result in suspension of accredited-free state status. If a second positive case of TB is found in cattle or goats in the state within 48 months of the first case, it could result in revocation of theTB-free status.

After a cow in Alpena County tested positive for bovine TB last June, the USDA on August 13, 1998, formally suspended Michigan's accredited TB-free status, which the State had maintained since 1979. On January 6, 1999, two more cattle herds in Alcona County tested positive for bovine TB. State officials announced on February 1, 1999, that the USDA intends to issue an interim rule favoring a split-state status that would recognize Michigan's effort to contain the disease to the Enforced Restriction Area. A split-state status would retain the TB-free status statewide, while continuing cattle testing in the quarantined area. Reportedly, about 95% of Michigan livestock are outside the quarantined area.

## Economic Impact

A TB-free status is vital for the livestock industry because other states determine their import testing requirements based on the status of the state of origin. In addition, since buyers from other states and countries prefer to buy cattle and byproducts from an accredited TB-free state, loss of the status could have a negative economic impact on interstate and international agricultural trade for the state. According to the Michigan Farm Bureau, the loss of the status could cost farmers more than $277 million over 10 years in fees, production losses, labor costs, and market share loss. Wisconsin, Virginia, and Montana already require testing of any livestock coming into their states from Michigan. Currently, California, New Mexico, Pennsylvania, and Texas have lost the TB-free status.

Livestock herds found to be infected with bovine TB are destroyed and livestock owners are reimbursed by the State. (Public Act 552 of 1998 increased from $1,250 to $3,000 the maximum amount per animal that may be paid as indemnification until January 1, 2005, to ensure that livestock owners receive fair and adequate indemnification for their loss.) The livestock owners, however, are prohibited from putting a new herd on the land for at least one year. Even if the animals test TB-free, farmers must devote substantial time to testing, and the cattle lose weight and milk production when they are handled.

## Legislation

Public Act 552 of 1998 (Senate Bill 1282) amended the Animal Industry Act to establish requirements for the importation and movement of captive cervidae. Among other things, an animal under six months old that is imported into the State must originate from an official TB accredited or qualified herd, or remain at its destination until it receives an official negative TB test. Captive white-tailed deer and elk moving from one premises to another within the State also must originate from an official TB accredited or qualified herd, or from a herd with an official negative TB test.

In addition, owners of a captive white-tailed deer or elk farm that does not have an official TB accredited or qualified herd status must have captive cervidae, as well as cattle and goats in contact with them, tested for tuberculosis.

Owners of captive cervidae ranches must have a veterinarian visually inspect the animals for evidence of TB, if they are removed from the herd. (A detailed analysis of Senate Bill 1282 can be obtained off the Internet (http://MichiganLegislature.org) or from the Senate Fiscal Agency (373-5383).)

## Conclusion

Public Act 552 requires the MDA, until January 1, 2001, to consider and regularly review the need to require an official negative TB test for all cattle and goats within 60 days before movement from one premises to another in the State, or require that cattle and goats originate directly from an accredited TB-free herd. The MDA Director also may require other species to have a negative TB test before movement within the State.

In addition, the MDA must coordinate and conduct, with the DNR's assistance, a scientifically based surveillance program for bovine TB of free-ranging deer in the Enforced Restriction Area and other adjacent counties where any free-ranging deer are found to be positive for bovine TB. The MDA must report the results of the study to the Legislature and the Governor by September 1, 1999.

The MDA, DNR, Department of Community Health, Michigan State University, and USDA will continue to research bovine TB and its impact on the economy and public health. According to the MDA, the goal is eradication of current and future outbreaks of bovine TB, not control of the disease. The Departments hope to conclude tests on all animals in the five-county area by April 1999.