Battling TB

Michigan cattlemen cope with marketing restrictions and seek to eradicate TB in livestock and deer populations.

by **Heather Smith Thomas**

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Two years after Michigan lost its bovine tuberculosis (TB) accredited-free status, producers are starting to see a light at the end of the tunnel. It's been a long haul.

It took 62 years for Michigan to reach accredited-free status after the onset of the Bovine TB Eradication Program in 1917. That status was granted in 1979. Nearly 20 years later, in November 1994, lesions in a white-tailed deer killed by a hunter in Alpena County were confirmed to be that of bovine TB.

After investigation, it was believed to be an isolated case, according to an informational Web site (*www.bovinetb.com*) maintained by several organizations that cooperate in the effort to eradicate the disease once again (see Table 1). Occurrence of bovine TB in wild deer had been rare in the United States, with only eight cases reported nationwide before 1995, all of which were found to be associated with exposure to infected cattle, bison, captive elk or feral swine.

Livestock within the immediate area where the infected deer was found were tested in the spring of 1995, and no evidence of TB was found. However, further testing of hunter-killed deer revealed 18 more positive cases in 1995.

In response, a multi-agency program was initiated to begin testing livestock and privately owned cervidae (deer), and a statewide surveillance program for white-tailed deer and other wildlife was started. A scientific panel was put together to research, develop and recommend an eradication strategy, and Michigan Governor John Engler issued an executive directive to eradicate bovine TB from the state.

The resulting discovery of TB in cattle and the subsequent finding of bovine TB in wild white-tailed deer in Emmet and Mecosta counties, in a privately owned cervid herd and in several other wildlife species, resulted in Michigan's loss of its accredited-free status in June 2000. It is currently designated as modified-accredited.

Michigan has approximately 1,050,000 head of cattle and calves statewide, according to the *www.bovinetb.com* site. Only 2% are located in the counties of Alcona, Alpena, Montmorency and Presque Isle, the counties where TB is most prevalent, but cattlemen across the state have felt the ramifications.

A state-wide concern

Monte Bordner and his family raise registered Angus cattle near Sturgis, Mich., three miles from the Indiana state line. Although they are 300 miles from the TB area, it has affected their ability to market cattle.

"Two years ago when the rest of the country was coming out of the low part of the cattle cycle, our bull market was still depressed," Bordner explains. "Some folks were not buying bulls. They were either keeping their old ones another year or selling their cows." Some cattlemen didn't want to deal with testing, he adds. And a lot of cows went to town that fall after weaning.

Restriction on cattle movement has been the most frustrating aspect of the situation, because everyone in the state is affected, Bordner says. "In April 2000, Indiana shut us off completely. Even though the TB problem is isolated in the northern Lower Peninsula, there was a period of time folks in our area couldn't take livestock to the local auction barn 20 miles away."

Bordner was part of a group from the Michigan Cattlemen's Association (MCA), Michigan Farm Bureau and Michigan Department of Agriculture (MDA) that pleaded its case with the Indiana Board of Animal Health (BOAH). The Indiana state veterinarian eased a restriction that required that the buyer quarantine the purchased animal and retest it in addition to the seller's requirement of having had both a whole-herd test and a test of the individual within 60 days of sale.

"Nobody wants to buy a bull from me if they have to quarantine and retest him," Bordner says. "Dr. Bret Marsh, their state veterinarian, researched the issue and realized we had a serious problem. They eliminated the quarantine and retest portion of the rule, and I think that's reasonable.

"I realize Michigan has a problem with TB, but

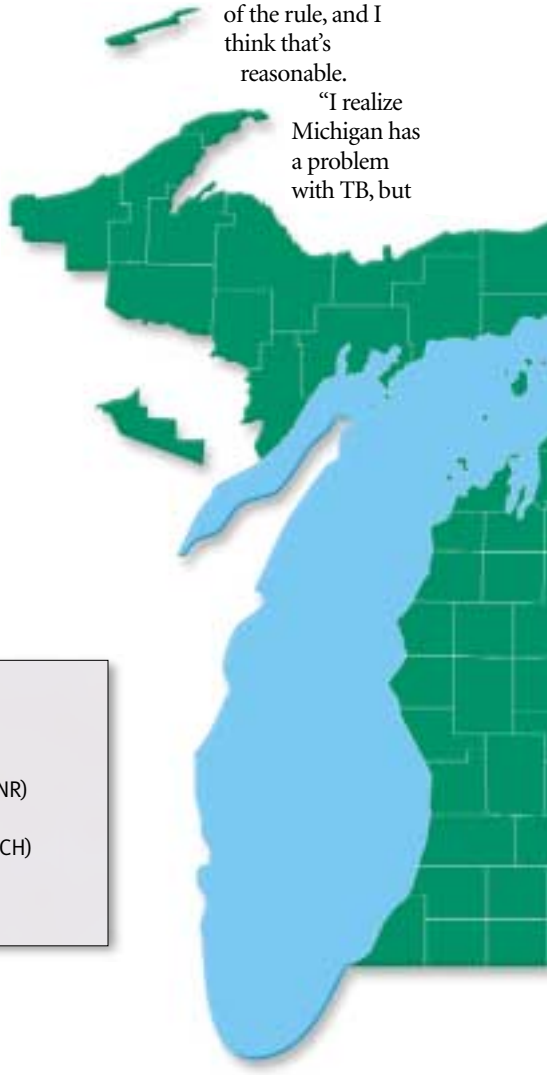

Table 1: Entities supporting the *www.bovinetb.com* informational Web site

Michigan State University (MSU)
Michigan Department of Natural Resources (MDNR)
Michigan Department of Agriculture (MDA)
Michigan Department of Community Health (MDCH)
U.S. Department of Agriculture (USDA)
Bovine TB Eradication Program

it's not very close to us," he continues. "My ranch is closer to the fairgrounds at Louisville, Kentucky, than it is to the closest TB animal in Michigan, but according to the federal law (written in 1919) everyone in this state is affected."

Bordner worked on the task force that rewrote Michigan animal health laws to deal with TB. Until the new law went into effect Jan. 1, 2001, state and federal regulations had been moving targets, which caused a lot of confusion and frustration, Bordner says.

Bruce Foster of Seldom Rest Farms, Niles, Mich., says it has been a challenge to find out what all the requirements would be. "We tested and became a certified-TB-free herd because we show cattle all over the U.S.," he says. "Having them tested makes it easier to move into and out of various states where our children are showing cattle. When the TB situation began, the authorities were changing the requirements every other week. Things are becoming more standardized now, and there's not as much hysteria about the issue."

Foster says they are now able to transport cattle. "We have a consignment sale in the fall. … It's been a challenge to convince people that we have all the necessary tests for all the breeders in the sale. That makes marketing a little more difficult."

Producer costs

According to Bordner, every animal in the state has to be tested. As of May 2002, 800,000 head had been tested. "Because of the federal pasteurized milk ordinance, all dairy cattle had to be tested by June 1, 2001, in order to sell Grade A milk," he says. "We're working on beef herds, but there's a lot of operations that don't have much in the way of facilities. Getting those cattle caught once is one thing, but holding them for three days to reread those tests is a totally different story."

There will be challenges to get every herd tested, he adds. "It will get done, but it's not going to be easy."

"We don't have a complete list of all the beef herds," Foster points out. "Large operations are well-known, but folks with one cow or calf, or even three goats, are more difficult to locate." Local veterinarians are helping find them.

Some people resist because they don't want the government telling them what to do, Bordner adds. In some cases, the sheriff's assistance may be needed.

Bordner completed his whole-herd test in December 2000. The state picked up the veterinary cost and paid him $3 a head for testing them. That just about covered the cost of the panels they purchased to make the processing easier.

"It was a gut-wrenching deal. A lot of scenarios go through your head when something like this happens," Bordner says. "We assumed we didn't have a problem, but you don't really know until you put them all through the chute."

Bordner has customers in the TB area who lost their entire herds two years ago. One of the ranchers who served with him on the cattlemen's board lost his herd of 165 cows plus calves, or about 350 head in all. Only three head tested positive, but all the cattle had to be slaughtered.

Regardless of indemnities paid (market value for cattle that must be destroyed),

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►Nearly 400 free-ranging white-tailed deer in Michigan have tested positive for bovine TB since 1995.

Split-state status

Michigan is looking at the possibility of having different cattle regulations for the unaffected portion of the state. "In April 2002 there was a nine-member review team from the U.S. Department of Agriculture Animal and Plant Health Inspection Service (USDA-APHIS) looking at what we've done, how things are going," says Monte Bordner, Sturgis, Mich. The review talked to all segments of the industry — cow-calf producers, markets, stockers, purebred breeders, organizations and private veterinarians.

"For the most part, we got a favorable review. Dr. John Clifford was head of the TB eradication effort for USDA-APHIS and was here the same time as the review team, at the request of our industry," Bordner continues. "He visited farms in the northeastern part of the state prior to our application for split-state status, and he thought we were doing all we could on this. It's a big project, to get everything done in a short period.

"There are some questions about enforcement, and those are issues we are addressing in the new revision of the Animal Industries Act (the second revision). We are doing it again because we must put some teeth in the Department of Agriculture's ability to enforce it, such as being able to pull a trailer over to check on documentation. We need to give the Department authority to ask a sheriff or the state police to do this. In the West there's brand inspection and they have the right to do that, but here, we do not have the authority to pull someone over on the road and ask for documentation on the livestock in the trailer," Bordner says.

The application for split-state status was sent to USDA-APHIS in September. There will be a review period. "I believe it must be published in the *Federal Register,* and there must be a comment period. We are hopeful it will be acted upon and implemented by spring 2003 (best-case scenario). We've been told that six months is the very best we can hope for," he says.

"In January the MCA passed a resolution calling for mandatory electronic identification (ID). This would help speed up the testing process. Because of the TB issue we already have mandatory cattle ID. The electronic ID would also help track cattle through the markets and slaughter plants. The USDA is supplying electronic ID readers for a pilot project," says Bordner.

there's still the down time when you are not generating any money because you don't have any cows, he explains.

"Then there are tax ramifications," Bordner says. "If you have 150 cows and their calves, and they write you a check for those, Uncle Sam takes a big cut. This isn't normal income under any circumstances; you're selling the factory, too. They had to rethink some of those issues and how the money is put back out, so the rancher would have something to try to rebuild his herd.

"This is one of the things we worked hard at — getting the indemnities paid for at a price that would allow those folks to get back into the cattle business again if they wanted to. We also had to get people to realize this wasn't a problem of our making; it's not an ag problem, but a wildlife problem," he says.

Regarding his own herd Bordner says, "We were clean, so now when we sell bulls we take a certificate that says we've had our whole herd tested, and that allows them to move. But consignment sales are still asking for a 60-day test, and that adds another cost." The test requires two veterinary calls at about $35 apiece and a $10-per-head fee, he adds.

"The legislature and Department of Agriculture have been very generous, but it isn't covering the costs. You think of sale areas in terms of a 50- to 100-mile radius to work from, but with our back against the Indiana border, half of my circle is gone. So we have to move farther to get these bulls marketed," he explains.

Roads left untraveled

For the first time in 22 years, the Bordner family didn't field a show string. The shows were asking that cattle be tested within 60 days of the show, Bordner explains. Attending their usual schedule of shows in December, April, June and August would have required testing the cattle four times just to meet show requirements. "So we just hung up the Scotch combs," he says.

Timing the whole-herd test was difficult. "You have to do it with the full understanding that you could be shut down for 30 days or longer before you can move anything off the farm," Bordner says. "If a herd has suspects, you are quarantined and can't move anything until they come back and do the comparative cervical test, and that can drag out."

The Bordners chose to test in winter to avoid their heaviest sale months in fall and spring.

"Even though we weren't quarantined, I couldn't in good faith sell and deliver any cattle until we had the final results," he says, noting that they did lose out on some sales. "It's a matter of ethics. You just had to let those opportunities pass, and once you lose them, they don't come back; the buyer finds cattle somewhere else."

Commercial producers also face marketing restrictions, Bordner says.

"Wisconsin and Minnesota shut the door completely. Feeder cattle from Michigan's Upper Peninsula would normally go to Wisconsin, Illinois or Minnesota, and they've lost their market for feeder calves," he explains. "They got some into Wisconsin last fall, into what we call terminal feedlots, where they all go to slaughter and can't commingle with other cattle. Or they go to a quarantine feedlot.

"The Michigan Cattlemen's Association initiated a couple of graded calf sales in southern and central Michigan to help get those Upper Peninsula cattle marketed, but it's 300 to 400 miles for many of those cattle to come to a sale," he continues. "There are a few large outfits, but most have only 25 to 50 cows. Freight is prohibitive unless they pool to bring them down.

"Their problems are my problems because these are my bull customers," Bordner says. "In the last two years I spent countless days away from the farm, working on this issue on the governor's task force to rewrite the Animal Industry Act, and testifying at the Ag Commission and Natural Resource Commission. If we don't resolve it, I have no place to sell my bulls.

"We're getting some progress," he says. "The people putting on the shows are acknowledging the whole-herd test. Unless the cattle come out of northeastern Michigan, the quarantine area or a surveillance zone, it's now OK to have free movement as long as you have that whole-herd test certificate."

Controlling the deer population

Part of the problem with TB in the deer population is the concentration of too many deer in small areas, and this has been fostered by privately owned hunt clubs in the northeastern part of the state, Bordner says. "For a lot of years these folks have hauled feed in for the deer — sugar beets and shelled corn by the truckload."

Efforts to correct the situation include bans on baiting and feeding deer, modifying hunting seasons and allowing more antlerless permits to try to reduce the population. Support hasn't been 100% from the sporting community.

"We're not convinced the bans on feeding and baiting in those counties are being strictly enforced," Bordner says. "There have been tickets issued, but not enough."

A suggestion to add $2 to the cost of deer licenses to eradicate TB was not well-received at the Natural Resources Commission meeting.

"A state representative floated a bill to add a dollar to each deer license to offset the cost of fencing off the feed storage areas, bunker silos, etc., but hunters don't want to spend more for their licenses," Bordner says.

"Hunting is their entertainment, but it's our livelihood that's at stake," Bordner says. Hunters see TB as a cattle disease. It is, but the incidence

Table 2: Wild white-tailed deer TB surveillance

Year	Number of Wild Deer Positive	Total Wild Deer Tested
1995	18	403
1996	56	4,967
1997	73	3,720
1998	78	9,057
1999	58	19,500
2000	53	25,858
2001	60	24,275
2002 (survey in process)	0	930
Grand Total	**396**	**88,710**

rate in the deer herd is 38 times what it is in the cattle population, he adds.

"In the Upper Peninsula, they had until recently been allowing people to feed [deer], and that worries me," Bordner says, adding that the 30- to 40-year tradition of feeding and baiting the deer has led to a serious problem. "Whether it's TB or some other disease like chronic wasting disease (CWD), we know from raising livestock that whenever you concentrate animals in a small area, you get problems. Under natural conditions, disease thins the herds when they build up too much."

On a positive note, Bordner says the incidence of TB in the deer population is decreasing (see Table 2). Eradication efforts are working, though slowly. Fewer cases are seen in young deer.

And the Natural Resources Commission seems to be changing its attitude toward feeding and baiting, Bordner says. "I believe this change has been prompted by the chronic wasting disease problem in Wisconsin. People on the commission are realizing this isn't just TB we must be concerned about. If we get something like chronic wasting disease, it will be disastrous."

Foster agrees that more action needs to be taken to get deer numbers in check, but recognizes that the problem seems to be isolated to the northeastern part of the state. He credits beef producers for staying ahead of things so they can be proactive instead of reactive.

"We're getting people to understand this is not a life-or-death thing," Foster says. "If foot-and-mouth gets here we're finished, but we can deal with TB. We can test, we can follow protocol set up through the Department of Agriculture, and we're dealing with it.

"We're trying to make the best of a bad situation," Foster says. "It's been a cooperative effort. … The goal is to have all animals tested by 2003."

Michigan is trying to achieve TB accredited-free status. The state still has a long road ahead, but organizations are working together and will provide a good example for other states, should the need arise.

The market has turned some this year, Bordner says. "Our spring bull sale was brisk, and there was good demand for our Angus cattle. A lot of the smaller herds are gone, however."

Human interaction

Michigan Department of Community Health (MDCH) officials announced April 10 that an elderly individual had been diagnosed with bovine tuberculosis (TB), but had died from unrelated causes in February. DNA fingerprinting was used to determine that the strain of *Mycobacterium bovis* found in the individual was the same found in cattle and deer in northern Lower Michigan. The source of infection was under investigation.

"Bovine tuberculosis is a serious bacterial disease that affects primarily the lungs and sometimes the digestive tract of livestock, deer and other wildlife," said MDCH Director James Haveman, Jr. The individual lived in a rural area within the northeast Lower Peninsula. The patient did not have a cough and was not likely to have transmitted the disease, Haveman said.

Physicians and laboratories in Michigan are required by law to report communicable disease cases, including TB, to local health departments.

The MDCH, in conjunction with the state's Bovine TB Eradication Project, continues to emphasize standard bovine TB prevention practices. Because the bacterium is most often found in lung tissues the disease is primarily spread through breathing or coughing but can also be spread by drinking unpasteurized milk or eating improperly cooked meats from infected animals.

Decades ago, unpasteurized milk served as a major source of human infections. Milk in Michigan has been required for years to be pasteurized to assure the safety of Michigan's milk supply. Farm families and others are reminded not to drink unpasteurized milk.

"The possibility of humans contracting bovine TB from animals continues to be extremely remote," said Michigan bovine TB eradication coordinator Bob Bender. "However, hunters or individuals who come into contact with TB-infected animals are encouraged to take extra precautions and contact their physicians concerning the need to have regular TB skin tests."

Extra precautions while handling animals include wearing disposable latex gloves and washing your hands afterward. TB skin tests are offered at local health departments or private physicians' offices. A positive skin test reveals infection, not disease, and does not identify the type or source of the exposure. Bovine TB can be effectively treated in humans, so it is crucial for individuals to contact a physician if they think they have been exposed to or have symptoms of TB. Symptoms include persistent cough, night sweats and unexplained weight loss.

Local health departments in the rural counties where bovine TB has been confirmed have offered tuberculin skin testing free of charge to all persons who feel they may have been exposed to bovine TB (custom processors, camp personnel, hunters) in their areas. They are also providing testing to all persons on farms with affected herds.

All meats, including hunter-harvested deer, should be thoroughly cooked to an internal temperature of 165° F for 15 seconds to kill bacteria. If the lungs, ribcage or internal organs from wild deer look abnormal (multiple tan or yellow lumps), the meat should not be eaten and the deer should be taken to a Michigan Department of Natural Resources check station.

Livestock in Michigan destined for consumer use are cooperatively scrutinized by the Michigan Department of Agriculture (MDA) and the U.S. Department of Agriculture (USDA) to assure that meat products meet stringent requirements that guard the safety of the food supply.

Since bovine TB was rediscovered in Michigan in the mid-1990s, the state has moved aggressively to develop and implement a comprehensive and stringent TB testing strategy and protocol. As of April 10, 2002, more than 760,000 TB tests had been conducted on Michigan cattle, bison and goats, and 16,500 privately owned cervids had been tested or were under a herd surveillance plan. Nineteen cattle herds had been diagnosed with bovine TB. Two dairy herds were under test-and-removal plans, and 17 beef herds had been depopulated.

In addition, as of July 3, more than 88,710 TB tests have been conducted on wild white-tailed deer and elk, with 396 deer and two elk confirmed with the disease. Carnivore tests have revealed 13 TB-positive coyotes, four bobcats, two raccoons, two red fox, two opossums and seven bears, bringing the total number of carnivores that have tested positive for bovine TB to 30.

Editor's Note: *This article supplied by the Michigan Department of Community Health.*