

Report from Michigan Meeting on Bovine Tuberculosis

Lansing, Michigan

December 8, 2008

The Animal and Plant Health Inspection Service held a series of public listening sessions on the future of the national bovine tuberculosis (TB) program. In attendance were various State agriculture and wildlife officials, industry representatives, producers, public health officials, and members of the general public. This document summarizes comments and suggestions from focus group sessions at the Michigan meeting (held December 8, 2008), public comments from the meetings, and written comments to USDA officials.

Description of Respondents

Representation at Meeting

28	State
16	Producers
3	Wildlife Officials
14	Industry Representatives
2	Public Health Officials
10	Other
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73	Total

Public Comments

Amy Spray, Michigan United Conservation Clubs
Kevin Small, Producer
Patrick McGuire, Michigan Farm Bureau
Ted Beals, Public Health Official
Steve Halstead, Michigan State Veterinarian

Written Comments

North County Beef Producers
Connie Lucas, dairy Producer
Garry Wiley, Michigan Cattleman's Association
Ken Nobis, Michigan Milk Producers Association
Phil Durst, MSU Extension

Biosecurity

APHIS Summary/Interpretation of Comments and Suggestions:

Biosecurity is an issue that needs to be addressed. While it was recognized that it is not possible to stop the importation of cattle from Mexico, it is possible to stop the commingling of slaughter cattle and cattle returning to farms. One suggestion included looking to the swine industry for guidance.

Comments from Focus Group

- Biosecurity is a huge issue and a management decision.
- We can't stop imports of Mexican steers, but States need to pressure producers to stop commingling slaughter cattle with cattle returning to farms.
- Needs to be taken seriously – 'the lights haven't come on' for most people.

Suggestions from Focus Group

- The swine industry should be a model for biosecurity education in the cattle industry.
- The USDA National Resources Conservation Service Environmental Quality Incentives Program (NRCS EQIP) for feed storage and security is helpful but there should be Federal cost sharing. This program is considered to be a "Cadillac", while some would prefer a more affordable "Chevrolet" version.

Control vs. Eradication

APHIS Summary/Interpretation of Comments and Suggestions:

There were mixed responses to the question on the overall approach to the national TB program. The first goal of the program should focus on control of the disease given the spread of TB through wildlife in the State, and moving toward eradication in the future. However, some felt that nothing less than eradication could be the goal of the program, given the potential risk to human health. It was suggested that either control or eradication must be evaluated for its effectiveness and economic feasibility.

Comments from Focus Group

- Control, not eradication, in areas needing attention.
- All participants felt that eradication should be the goal of the program. However, comments about what was needed included: more flexibility in the program and regulations, more research, standardization of the program, and having individual, science-based, State-developed plans that USDA epidemiologists could look over and approve.
- Eradication may be possible in parts of the United States; a control program may be needed in other areas such as Michigan where there is a wildlife reservoir; define what eradication means.
- Don't worry about control/eradication, focus on risk management and risk acceptance (brought up by producer).
- Eradication is a daunting task, especially given limited resources; control is the only way to go.
- A group discussion followed whereby everyone agreed that as long as Michigan had infected wildlife, they would be talking about a control program. The national TB program should strive for an eradication program, or for having a prevalence in infected wildlife that no longer affects livestock.
- All agreed that the goal of the program should be control, though most agreed that eradication would be possible if there were enough political will. Most producers felt that there could be no eradication of TB from the cattle population without a significant and aggressive effort to eliminate the disease from deer.
- The goal is eradication of TB in the State and country.
- Control is the first issue.
- Contain, control, and eradicate are the three initiatives.
- What will eradication do – will that enable us to export more? Export is a big issue in the TB program and we need to be careful about changing terminology because other countries will raise eyebrows regarding what the U.S. is doing. Eradication is a term of confidence.
- Can you eradicate disease without limitations – no. The industry is changing; there are vast differences throughout the country. The difficulty of the TB program concerns small livestock producers; it's very, very expensive for them to support their small industry and middleman.

Comments from Public and Written Comments

- Nothing less than full eradication of bovine TB must be the goal of the program. Control assumes that the public health liabilities can and will be managed in the future. And all “control” measures have been proven inadequate and impose a far greater economic and medical hardship on future generations.
- Is controlling the disease in Northeast Michigan the answer?
- Are we ever going to be able to eradicate the disease or will livestock in Northeast Michigan be eradicated? Cattle are not transmitting the disease to other cattle, deer are.

Suggestions from Public and Written Comments

- Bovine TB policies for control and eradication need to be continually evaluated for effectiveness and economic feasibility.

Education and Outreach

APHIS Summary/Interpretation of Comments and Suggestions:

Continued and increased education and outreach were seen as opportunities to engage the community, address risk mitigation, and encourage collaboration between producers and sportsmen on the issue of wildlife species as TB vectors.

Comments from Focus Group

- Government needs to play a bigger role in education, including the public health importance of TB control and economic benefits to the State.

Suggestions from Focus Group

- Encourage greater collaboration at the local community level between producers and sportsmen in addressing TB.
- Address risk mitigation with education and flexibility; risk mitigation can be a difficult concept for those landowners/producers who do not think that they face any risk. Apply lessons in community engagement, from situations like those at superfund sites, to bring groups (sportsmen, producers, etc.) together to develop workable approaches at the local level. Examples were brought up of conflicts among neighbors over how they want to utilize their property (i.e., for hunting or farming).

Funding

APHIS Summary/Interpretation of Comments and Suggestions:

Will there be continued funding if the goal of the program is changed from eradication to control? USDA was reminded that although Michigan has received much funding for the TB efforts, they have also received valuable information in return. It was suggested that the cost could be shared with those noncompliant producers.

Comments from Focus Group

- Will government fund the TB program if the goal is not eradication?

Comments from Public and Written Comments

- USDA has given a lot of funds to help us, but from a disease transmission perspective, we have given the USDA an awful lot of very valuable information.
- When I think from the USDA perspective we have to differentiate the information we are getting from the dollars that we are spending, not just focus necessarily what Michigan producers are getting in "X" number. Michigan producers give you back all this information that is very valuable.

Suggestions from Focus Group

- Put the cost on noncompliant producers.

Imports and Mexican Cattle

APHIS Summary/Interpretation of Comments and Suggestions:

Importation of cattle, specifically Mexican cattle, were not seen as the big concern for the Michigan TB program. It was mentioned that improvements in producer's personal responsibilities, and Federal and State enforcement of eartags, could improve the situation.

Comments from Focus Group

- Imports are not a big concern in Michigan. Deal with risky behavior, biosecurity standards, set up terminal feedlots and require all imports to go to those feedlots. You can't say people can't raise cattle in particular areas (cattle-free zones); people have a right to raise cattle anywhere they want to raise cattle.

Suggestions from Focus Group

- Regarding Mexico, the group agreed that USDA and the States should enforce compliance with eartag requirements. We should microchip Mexican cattle.
- There's room for producers to improve; we have not pushed 'personal responsibility' of producers; we've only maintained the status quo.

Indemnity/Depopulation

APHIS Summary/Interpretation of Comments and Suggestions:

If indemnity payments were to continue, some changes would be needed; for example, length of time for payment, uniformity among States, regard for family farmers and heritage animals, product producing animals such as dairy cows, respect for commodity, and linking future payments of indemnity with risk reduction practices. The test-and-removal strategy is seen as a more favorable option than herd depopulation.

Comments from Focus Group

- Disliked the long time USDA took to implement appraisal and pay indemnity.
- Need for uniformity in indemnity and depopulation, among States, especially with regard to the amount paid.
- What is purpose of indemnity? Does the program force you to accept it because there is no other option? Indemnity is a quicker fix but costly; quarantines are not necessarily an option.
- USDA and the States should get industry involved in depopulation decisions.
- Test-and-removal of individual animals (versus whole-herd depopulation) is a program producers can live with. Length of quarantine could be conditioned on biosecurity levels.

Comments from Public and Written Comments

- Ultimate depopulation of a commodity herd can be based on a testing program that is less than perfect. However, when a herd, or individual members of a herd, have been rigorously bred by a farmer or farm family over generations or are heritage animals, then the testing criteria should require much closer to the “gold standard” for that “positive” determination.
- It is possible to justify the indemnity payments for a commodity animal at commodity values. But the indemnity for an animal that is producing a product, such as milk, must reimburse actual values for the qualities of that animal in the context of the management of the herd. Dairy cows that are a result of generations of personnel or family attention to breeding and care must be reimbursed so as to account for that management over time.
- Testing and depopulation strategies need to be updated. The Michigan Cattlemen’s Association has been supportive of the depopulation of the entire herd when one positive is found. However, the cost of this procedure may prohibit this tactic in the future.
- Indemnity payments should continue to be tied to the implementation of proven scientific wildlife risk mitigation practices.
- Greater producer input is needed in determining the most appropriate herd management strategy– either herd depopulation or test-and-remove – when a TB positive animal is found, based on the cost effectiveness and risk involved.

- Will Michigan follow the program of test-and-removal (T & R)? At the listening session Michigan officials let us believe this was the case. I question this belief after attending a TB implementation meeting held locally, and the recent treatment of our farm by the Michigan Department of Natural Resources (DNR), USDA's Wildlife Services program (USDAWS), and the Alpena Soil District Conservationist for bovine TB project.
- At the United States Animal Health Association (USAHA) meeting in Greensboro, USAHA's TB Committee and USAHA passed a resolution presented by the TB subcommittee to assess the test-and-removal strategy. The T & R subcommittee examined the evidence of the 15 herds in Texas, New Mexico, and Michigan which have undergone T & R since 1985 and based our conclusion on what the data showed us. We concluded that: (1) T & R can be effective in eliminating TB from herds, (2) as herds go through T & R and are under quarantine, confidence in their TB status increases with time and continued testing, and 3) through good herd plans, safeguards can be developed which protect other herds, people both on and off the farm, and wildlife from infection by this herd. RESOLUTION: The United States Animal Health Association (USAHA) urges USDA, Animal and Plant Health Inspection Service (APHIS) to adopt changes to its Veterinary Services' (VS) program's memo, VS Memo 552.38, in the counting of affected herd-years for "approved" T & R herds by reducing the value to 75% of an affected herd after one year, to 50% after two years, and 25% after three years when no additional infected animals are found.
- What stands in the way of T & R being used more with herds (particularly dairy herds) is policy that is punitive to States/zones which allow T & R herds. We believe that policy also encourages TB-free States to be even more restrictive in regard to the sale of tested livestock from States/zones where T & R herds operate.
- Therefore, USAHA offered a policy change that reduces the count of affected herds for those T & R herds which meet the standards of an "approved" T & R herd.

Suggestions from Focus Group

- USDA and the States tie epidemiology to depopulation and look at past depopulations/outbreaks to see what may have been missed in epidemiology that led to new outbreaks.
- Indemnity should be tied to respective producer group.
- When infected farms are found, apply the test-and-remove approach rather than whole-herd depopulation. Infected farms should have a plan for wildlife mitigation.

Suggestions from Public and Written Comments

- Link future indemnity payments with implementation of on-farm wildlife risk reduction. Producer indemnity should be tied directly to the development and implementation of a producer's farm risk management plan.

Public Health

APHIS Summary/Interpretation of Comments and Suggestions:

More emphasis should be placed on the human influence in the spread of TB and the human impacts. The roles of the producers, hunting community, and public health officials in this situation were all questioned.

Comments from Focus Group

- Remember that TB is a human health issue.
- From a public health perspective, the group's public health representative noted that in the last eight years, four cases of TB have been found – one elderly person, one hunter, and two immigrants.
- Humans are the key to spreading disease; what's our part in solving the problems?

Suggestions from Focus Group

- Place more emphasis on human health impacts of *Mycobacterium bovis*. The public health and hunting communities have not made this a high priority.

Regulations

APHIS Summary/Interpretation of Comments and Suggestions:

Overall, the regulations were felt to be outdated, ineffective, cumbersome, and using invalid assumptions. New regulations should be flexible, focused on the problem areas, easily changeable or rewritable, and science-based.

Comments from Focus Group

- Regulations should be flexible to focus on disease.
- Producers were more afraid of the current USDA TB regulations than actually getting the disease. Industry perception was that TB regulations seem to be more of a hindrance than a help.
- Outdated and ineffective regulations. We need something more flexible that focuses on the problem area (herds or geographic area).
- Many people would rather eliminate the program than the disease. The process for changing the Uniform Methods and Rules (UM&R) is cumbersome and lengthy.

Comments from Public and Written Comments

- We need to have the ability to rewrite these rules, write these rules and rewrite these rules. It has to be something that is continually a work in progress.
- The current APHIS program was created during the absence of TB in our herds. The UM&R are outdated and use invalid assumptions.

Suggestions from Focus Group

- Ensure that regulations are science-based, as producers and veterinarians don't like doing tests simply because the regulations mandate them.

Research

APHIS Summary/Interpretation of Comments and Suggestions:

There is a need for continued and additional sources of funding to support long-term research for vaccine development. Funding cycles for research are too short and it was suggested that the program look to the New Zealand model. Other suggestions included encouraging graduate student research and pooling international efforts.

Comments from Focus Group

- USDA should provide (or direct) more funding, especially for competitive positions.
- Long-term research should be directed toward improving diagnostics, testing, and vaccination.
- Current funding levels are not drawing the best and brightest to do this research.
- Explore human connection.
- USDA money should be used to test employees of cattle-related businesses, and to explore other sources of TB.
- Research needed to explore the sources of the transmission.
- Research is still needed into how TB is transmitted.
- An effective vaccine could be the ultimate solution for TB control in cattle. Challenges of vaccines in wildlife are daunting and include delivering the correct dose, impacts on non-target species, and residues in game animals. Time is needed to accomplish this.
- Also more research is needed on TB vaccine development and delivery.
- Funding cycles for TB research are too short. Develop a coordinated research plan. Follow the New Zealand model.

Comments from Public and Written Comments

- We need to look into more vaccines.
- The Michigan Cattlemen's Association requests an evaluation of APHIS epidemiology and the exploration of other diagnostic technologies and innovative application towards eradication of the disease.

Suggestions from Focus Group

- Graduate students could be a source of research, since there are few researchers that aren't focused on chasing money.
- Closely examine deer movement, behavior, and epidemiology. We need to be exploring a vaccine and the questions that go along with that: portability, development, etc.
- Need to explore funding opportunities with USDA's Cooperative State Research, Education, and Extension Service (CSREES).
- Utilize new technologies such as vaccination of cattle and deer. (Brought up by producer with support of others at the table.)

- Establish funding for research program; avoid duplication in research efforts; pool efforts internationally.

State Status

APHIS Summary/Interpretation of Comments and Suggestions:

The national TB program should reconfigure the program to target the disease and not focus on State status. The current approach causes problems for intra-State cattle movement between TB free zone areas and infected areas. State status should be replaced with zones based on a radius surrounding an infected herd, based on sound epidemiology, and conducted as a risk-based approach. Benefits and incentives could be developed based on a herd's risk and mitigation actions. While some view whole-herd testing as an expensive option, others would be willing to participate if producers were given a risk assessment evaluation or State status would be not impacted. Regulations would need to be changed accordingly.

Comments from Focus Group

- Conflict with Michigan's Upper Peninsula (U.P.), which is a TB-free zone. The producers found it difficult to ship cattle from more restrictive zones through the U.P.
- Did not like "law enforcement"-type enforcement.
- An industry representative notes that there hasn't been a positive cow in the middle of the State in 10 years.
- Expedite changes that would reduce the movement testing requirements by removing geographically based zones. Most agreed that a zonal approach to TB was necessary.
- States should focus resources on areas where the disease is most prevalent.
- One size fits all program does not work; we need different programs for different regions.
- Reconfigure to focus on the disease, not status.
- It's not a deer or cattle problem — it's a people problem. Be careful about defining industry by size. Perhaps you need to: 1) define risk, and, 2) determine where (geographically) the disease is?
- Industry must be flexible and cannot be defined by State borders. What about TB-free States versus TB-affected States?
- Michigan stopped test-and-removal in favor of depopulation because some herds were languishing and the State couldn't risk a drop in status. The State would reconsider this decision if APHIS would agree not to lower its status for holding such herds under quarantine. This year, the USAHA will consider a resolution to not lower TB status of States allowing test-and-removal.
- Surveillance—(whole-herd testing) in Michigan—is different between States. Quarantine animals tie up producers. Whole-herd testing: we can't afford 100% testing and one must determine the cost-benefit.

Comments from Public and Written Comments

- Restore TB free status for the entire State of Michigan.

- Eliminate any targeted surveillance in the State of Michigan for herds that have conformed to a risk mitigation plan.
- We support the test-and-removal option for disease control as long as the owner goes through a risk assessment evaluation and makes a good faith effort to implement recommended practices that would mitigate the risk of infection from high risk practices as determined by the herd risk assessment.

Suggestions from Focus Group

- Shift to a regional, disease-based approach.
- Target the disease, not the area.
- One participant suggested creating a zone with a 5-mile radius around an infected herd as a approach to disease control.
- Proposed putting in a dedicated truck lane at the Mackinac Bridge to check Department of Transportation numbers on trucks.
- Change from zones based on political boundaries to zones based on epidemiological boundaries (draw circles around infected animals; “surgical incision” approach). Using political boundaries covers more area than is needed. Even with split-State status in Michigan there are lots of areas in the affected zone that have had no disease for a long time, or ever. Apply limited quarantines to farms in the circles, quarantining them only until tested. After negative test(s), allow farms to move animals without additional testing before each shipment (i.e., farms should not remain in disease zones for years and years with extra testing required for years and years). Some ongoing monitoring could be applied. Repeated testing is a financial burden and takes a physical and mental toll on owners and animals. Work with other States to accept change from zones based on political boundaries to zones based on circles around infected animals; accept a low level of risk; other States may also have the disease but are not testing enough to find it. (Brought up by producers and supported by others.)
- Replace zones based on political boundaries with zones based on circles around findings of infected animals. Within those circles require additional testing but for a limited amount of time. (Brought up by producers with support of others at the table.)
- Include surrounding States in discussions regarding zones to obtain agreement so those States don’t insist on stricter requirements.
- Group agreed that the program should modify the State status program and allow zones to be drawn and re-drawn at a more real-time pace to meet changing risk levels while leaving the rest of the State alone as much as possible. Cattle industry is not likely to adopt a New Zealand/Australian strategy whereby producers pay a “check-off” fee and industry takes over eradication policies and indemnity programs. Industry wants Congress to supply money to pay for the program. If money becomes scarce, then industry should lobby Congress for more money.
- The program should immediately be transformed into a risk-based program whereby herds are dealt with based on a risk assessment. Producer benefits and incentives should be developed that apply to herds according to a herd’s risk and

its owner's willingness to enact risk mitigation strategies in order to lower the herd's risk. If a clear plan is presented to producers that shows them if they do X,Y, and Z, then they will be allowed to decrease testing frequency or market their cattle more easily, they will gladly choose from these options and live with the consequences. There should be rewards for cooperation and years of negative whole-herd testing.

- Develop a risk assessment tool and the risk mitigation strategies to go along with them. Assess every herd in the epidemiologic zone and allow owners to respond to their risk score. Offer more incentives and benefits to herds that cooperate and test negative each year. Incentives should include decreased frequency of whole-herd testing, shrinking the zone, removing targeted testing of customers, and giving credit to herds that have a long history of testing and that have remained negative and cooperate with the program.
- We should work to identify the regions or zones that would most benefit from intensive attention (i.e. TB "hot zones"). States will have to buy off on "Zone" rule that requires States to accept a risk-based zonal approach or require penalties.
- Producers emphasized that testing (whole-herd testing in particular) is costly to producers. The USDA and the States should seek to reduce zone sizes based on risk and expend money to find out where the disease is. Prevalence should not be based on TB findings in deer.
- We should move to situational disease control through the creation of herd plans
- Do away with boundaries in favor of a regionalization approach that places a smaller quarantine radius around infected herds. Targeted surveillance could be conducted in these higher risk areas.
- Get rid of quarantine restrictions and include single quarantine restriction on a single animal.
- Utilize information available in Michigan about where TB has been found to pinpoint the disease area, draw a buffer around that area, and drop the other zones
- With the limitations of resources, we must approach this issue in focused and targeted ways to both manage and eliminate the disease. This disease knows no boundaries. For these reasons, whenever a TB-positive animal is found through random testing of livestock, slaughter inspections, or tracebacks, the farm itself is designated as a "Non-TB-Free Zone" and all animals within a 10 mile radius of this Zone would be tested for the disease.

Suggestions from Public and Written Comments

- We know that this disease is prevalent in certain areas in Michigan. Let's eliminate the zones that only the humans recognize (i.e., geopolitical). The disease doesn't recognize it. The animals don't recognize it. Let's get this thing down where we can actually throw enough funds at it to where we can do something.
- The "State status" rules in the UM&R need to be reviewed so that one positive animal in a herd does not affect the State as a whole. In addition, eliminate testing of heifers younger than six months of age.

- Pursue shrinking the Modified Accredited Zone (MAZ) zone in Michigan to the five county areas. Of the 83 counties in Michigan, we have 5 contiguous counties with demonstrated problems and another 8 where a higher level of monitoring should continue to take place. Designate the 5-county area as a “Region” with no TB-free status. Dedicate all testing, surveillance and support to livestock producers in this area to control, eradicate and prevent the problem. Designate the remaining counties in Michigan as TB-free. For the past 10 years, significant amounts of time and money have been spent on testing parts of the State where no problems have been found.
- Develop a targeted risk-based strategy with increased emphasis on prevention.
- We urge USDA to change the way it counts TB-affected herd years for herd owners who elect to undergo a test-and-remove protocol after TB is diagnosed in the herd. We ask that the count of herd years reflect growing confidence in the disease-free status of the herd after so many negative whole-herd tests. For example, we ask USDA to use a gradually decreasing factor after four negative whole-herd tests, and then after each subsequent negative whole-herd test until it is finally at zero when the herd is released from quarantine. This will make it practical for Michigan to offer test-and-remove as an option to producers in the MAZ.
- Change the number of TB zones in Michigan to two: a TB-Infected Zone or a TB-Free Zone. The boundaries for each zone should be determined by the area in which TB is found and not based on State boundaries. The TB Free Zone should allow for the free movement of cattle.
- The subcommittee at the USAHA meeting made a further recommendation which did not pass the TB committee. That recommendation is that the policy be changed so that the last two years of quarantine for test-and-remove herds be counted for the requirement to apply for advancement to the next higher TB status. We believe the primary reason that this did not pass was the concern that if applied to Mexican States, they might advance too quickly to a higher TB status level with less certainty about their relative risk. We believe that a simple change should be made to the recommendation so that it says it applies to States/zones regaining status. This, we believe would limit it to U.S. States/zones for the foreseeable future, but could apply to Mexican States later.

Surveillance

APHIS Summary/Interpretation of Comments and Suggestions:

Slaughter surveillance is seen as a vulnerability in the TB program. There should be support for inspectors needing to stop the production line, additional veterinarians hired to handle the workload, and better interpretation of electronic identification. There should be incentives and compensation for the inspectors.

Comments from Focus Group

- Revisit the vulnerabilities of FSIS slaughter surveillance.
- There should be support for stopping the slaughter line, additional vets are needed to handle the load.
- FSIS and VS need to work better to perform slaughter surveillance.
- Facilities are not willing to designate someone to do the surveillance as it takes time from the production line.
- APHIS should encourage slaughter surveillance as a way to find disease.

Suggestions from Focus Group

- Ensure slaughter plants in other States can read electronic ID tags so that animals are properly traced. Concerns raised were that there are only two technicians nationwide to support electronic ID readers.
- Provide incentives for doing an excellent job of slaughter surveillance.
- Use slaughter surveillance and movement testing in State – not “random annual testing” over a number of years.
- Not enough compensation/incentive for the slaughter inspectors to submit samples for surveillance.
- Financial incentives for both testing and slaughter surveillance.

Testing

APHIS Summary/Interpretation of Comments and Suggestions:

The current tests are not uniform, accurate, or sensitive enough. New tests should be quicker and eliminate repeat testing. There were mixed responses to the ability to develop a serum test for TB – will it be possible to validate these tests considering the lack of samples available to evaluate a new diagnostic test? The cost of testing should be shared between the producers and the sellers of animals.

Comments from Focus Group

- Current tests are not uniform, accurate, or efficient.
- We don't have tests that are sensitive enough to allow us to declare eradication; we have a high level of confidence in our tests, but they're not perfect. Do we have this same degree of confidence for 'TB-free' States?
- Need uniformity across the States: there's testing in Michigan and not in California. APHIS is losing credibility.

Comments from Public and Written Comments

- We need to look into more testing.
- Should herds in the modified accredited advanced (MAA) and TB-free zones have been tested more than once, since the testing is subjective and early stages of TB are hard to detect without necropsy?
- More sensitive and specific tests—specific serum test, for example—would have far-reaching positive affects on the TB surveillance program. These new tests should eliminate the need for repeat handling of livestock and allow for more rapid test results. The ultimate goal would be to develop a test that would be sensitive enough to allow removal of infected animals without depopulation of entire herds.

Suggestions from Focus Group

- USDA should phase-out its use of public equipment to perform testing in herds. Producers should buy the equipment and hire veterinarians to do the tests themselves.
- There should be financial incentives for both testing and slaughter surveillance. Testing should be synchronized.
- There is a lack of access to TB-positive cattle samples for development of a serum diagnostic test. A cattle and cervid serum bank exists at the National Veterinary Services Laboratories (NVSL), but the problem is the small sample size (few positive cattle in the U.S.). The sample pool for cattle could be expanded by including animals from Europe and Mexico, although strict importing requirements might necessitate that the testing be conducted abroad. Another option would be to conduct parallel testing of hunter-harvested positive deer samples in Michigan; these samples are plentiful and currently go to the State Department of Community Health. Improved diagnostics are key.

- The cost of TB testing at sales and exhibits should be a requirement and should be borne by the sellers, not by the purchasers.
- Broad-based testing was wasteful of time and money.

Suggestions from Public and Written Comments

- Incorporate alternatives to whole-herd testing, such as enhanced slaughter surveillance, for those herds that are following USDA recommendations such as having a wildlife risk mitigation plan and properly using movement permits and Radio Frequency Identification (RFID) tags. Allowing for greater flexibility in targeted whole-herd testing capitalizes on producer's investments to become compliant.

Traceability

APHIS Summary/Interpretation of Comments and Suggestions:

In Michigan, electronic identification is one component in responding to TB. Without the ability to trace an animal to its place of origin it will be difficult to eradicate TB. Most felt there should be continued support for a sustainable and mandatory animal identification program.

Comments from Focus Group

- Support mandatory animal identification to allow traceback.
- All agreed and felt strongly about the need for a mandatory animal ID program
- Electronic ID is needed for the program to succeed.

Comments from Public and Written Comments

- I think the animal identification program and staff that we put in place over recent times have been important. So are forums, whether they be at the State level like this or at the national level, but also at the local level also to get input from producers at those different venues.
- Electronic identification: We are able in the State of Michigan to tell where these cattle come from and where they are going to go. We have the ability to trace these cattle.
- Our electronic identification program for cattle is a significant component of our ability to respond to TB when we find it, and to assure that we don't have it when that is necessary.
- I am unaware of any responsible official in Michigan's bovine TB eradication program who concludes that the failure to regain TB-free status is the result of the failure early in the program to make our animal identification system compliant with the National Animal Identification System (NAIS). I have read extensively of final reports from other States that have satisfactorily returned to TB-free status and I have not seen any comment that their program was hampered by a failure to make their State's animal ID database compliant with NAIS. Therefore, requirements that make Michigan and the veterinarians included in VS disease program activities force farmers to participate in NAIS as required in VS memorandum number 575.19 issued September 22, 2008, and in various memorandums of understanding (MOUs) between the USDA and Michigan are unjustified and inappropriate.
- Continue developing a sustainable animal identification and traceability network.

Suggestions from Focus Group

- Have a national, or at least a statewide, animal ID program.
- Have increased testing and ID of Mexican cattle with a standardized traceback, which would make it easier to focus on specific animals with the disease.
- National TB program must continue to invest in and promote electronic animal ID, TB infrastructure at markets and in personnel, and invest in research to

promote better TB tests and an animal vaccine for cattle and wildlife that can be differentiated from natural infection.

Wildlife

APHIS Summary/Interpretation of Comments and Suggestions:

Wildlife was seen as the most important issue to be discussed. There was much support from all participants for the banning of baiting and the feeding of wildlife. The enforcement efforts that were being made in the Lower Peninsula were mentioned. More research, funding, and need for incentive for landowners were also brought up. Some suggestions made included, herd plans or Federal standards for deer control, and Federal support and funding for the cost to landowners to prevent wildlife and livestock interaction.

Comments from Focus Group

- Education about how control feeding and baiting deer increases the risk of infection.
- All participants (and producers in particular) agreed that our number one priority – at least in Michigan – should be wildlife. Deer in Michigan continued to be fed and baited – we need to be more aggressive in culling deer (to do so we should identify authorities and/or tie State funding to wildlife control measures). All felt that States should be forced to address this risk factor.
- We need to allocate money in Wildlife Risk*A*Syst (WRA) mitigation plans and research.
- Producers want to know what wildlife officials are doing to facilitate TB program.
- What is the National Resources Conservation Service (NRCS) going to do regarding baiting and feeding?
- Baiting/feeding in the Michigan's Lower Peninsula is illegal; DNR has stepped up enforcement; there's been a 400 percent increase in poaching fines/warnings.
- I've heard people say you can protect a livestock herd by killing the deer; that's waging war on wildlife.
- There's a lot of risk and the wildlife sector has not carried out the same level of surveillance.
- Reducing deer density would reduce TB risk to cattle. Currently there are more than 2 million deer in Michigan, with densities of 40 per square mile ('a deer feedlot'). In Minnesota, TB-infected deer have been found at densities as low as 6-10 per square mile.
- In Michigan there have been five documented cases of TB in elk (out of 1,880 animals tested). Bait piles where elk and deer commingle are a potential source of TB infection for elk. This has been a problem in Manitoba.
- DNR food plots (sugar beets) are another potential source of infection.
- More research is needed on the transmission of TB from wildlife to cattle. Are other species, e.g. raccoons, opossums, important in the epidemiology of this disease? Badgers in Europe and brush-tailed possums in New Zealand are important TB reservoirs to cattle because they have open lesions.

- One producer suffered a \$20,000 loss in feed corn and shot 120 deer on the property. At the end of the season there were still an estimated 80 deer.

Comments from Public and Written Comments

- Deer hunting in this State is a half a billion dollar industry: I think it's very important to our State that we protect our hunting tradition.
- We need to protect the health of our wild deer herd; we can't kill all the deer.
- The Michigan United Conservation Clubs (MUCC) has taken the first step toward supporting the ban on baiting and feeding, and we'll continue to do so.
- We certainly are willing to continue working on that and looking at enforcements, penalties, fines, whatever it might take to make sure that is working. We have taken it upon ourselves to create a Michigan deer advisory.
- And we want to make a holistic deer management plan with all sides of the equation giving input around the State. It's not a deer hunting plan, it's a deer management plan. So we want the ecological and the other industries affected involved in that
- The Michigan Department of Natural Resources (DNR) is consistently driving the prevalence rate in the wild deer population down, but that is a long-term project and a long-term goal.
- The efforts to eradicate TB from the domestic herds in Michigan have suffered because the same diligence to test and cull the domestic animal herds has not been applied to the well-recognized endemic reservoir of bovine TB in the wildlife.
- It is ludicrous to believe that a farmer can protect a domestic herd from transmission of bovine TB from a diverse endemic wildlife reservoir. This experiment has and is being testing as we speak in Michigan and several other countries.
- Eradicate TB in both the deer herd and cattle herd.
- Reduce the deer herd in the MAZ and surrounding area to below carrying capacity until TB is undetectable.
- The DNR and USDA's Wildlife Services (WS) program are not willing to work with producers to protect their feed stored for livestock. Attempting to force a signature of a signed plan to build a massive, expensive, unobtainable fence in order to receive MNDR disease control permits. (I say unobtainable because the specs state the steel post must be driven 50" in the ground and we have bedrock at 18" and dynamite is the only way through it and that is questionable!) A plan that had been requested in the spring after a horrible winter of major deer destruction was presented on December 10th for an immediate signature by Pat Ryan, WS, and Randy Mellburg, Alpena Soil District bovine TB conservationist. The plan is so vague as to payment of the \$11,000.00 fence that an attorney was needed to review it and upon review suggest that it not be signed. DNR at the same time is allowing other producers without such fencing or signed plans to obtain the permits.
- On July 16, a team from the Cheboygan NRCS office came to do a Wildlife Risk Assessment. They never approached a owner but took it upon themselves to tour the farm. They ended up trespassing on the neighbor's property and identifying

our neighbor's biosecurity practices as part of our farm's. We told them of our unhappiness with this and moved on from this. It was not until December 10th that we were presented with this Wildlife Risk Assessment Plan. Many questions and faults were found in the report. We were expected to sign it regardless. We did not sign upon our attorney's suggestion. At the TB implementation meeting the following day I was informed this was an obsolete form but I still should sign it to get this fence going. And the plan was voluntary only, but the plan is a future binding agreement necessary to move cattle in Michigan?? Our farm has since decided to use a less costly fence solution that will work for our farm to protect our stored feed. For over 10 years we have worked positively with MDA, USDA, and DNR on the bovine tuberculosis issues. Testing our whole herd 13 times (assisting in every test) and several individual tests, attending informational meetings, being a part of committees. We are willing to listen, participate and be proactive. This latest issue has left a very sour taste for our farm. It seems the Departments of Agriculture are taking giant steps forward. The DNR is taking steps backwards again because "Joe Sportsman" is uneducated on deer population and bovine tuberculosis!

- TB control is dependent on adequate surveillance of cattle and wildlife. In Michigan, we know that there is an infected wildlife reservoir and that this is becoming more of a problem.
- An aggressive program should be conducted by the Michigan Department of Agriculture and the Michigan Department of Natural Resources to eliminate bovine TB from the deer herd and cattle herds. These efforts should include programs to reduce the deer population and minimize contacts between livestock feed supply and free range deer.
- The Michigan Cattlemen's Association supports a total ban on feeding and baiting, including supplemental emergency feeding of free-ranging deer statewide. In addition, the violation penalties should be strengthened similar to those of poaching violations.

Suggestions from Focus Group

- Herd plans or Federal standards for wildlife for deer control are needed to keep deer/cattle contact down. USDA and the Association of Fish and Wildlife Agencies (AFWA) should look into exploring and promoting this.
- Address incentives (or lack thereof) for landowners/State agencies to address wildlife reservoir issue; promote focus on having a healthy deer herd rather than a large deer herd; deer herd has already been reduced in size (issue was raised by producers, not all at table supported the proposed action).
- Examine areas at the intersection between woodlands and farms; lots of unknowns about how/if it is possible to eradicate TB in the woods; there may be locations where farming should be limited. Develop an approach which allows landowners to take responsibility to address wildlife issues; provide landowners with the needed tools, plus the incentives. "People paying the costs are not the people getting the benefits."
- Change ownership of deer from State to landowners to provide greater incentive for landowners to address the deer issue.

- Expand checking of deer carcasses (not all participants felt this was important as it is only useful for estimating prevalence).
- Cattlemen want short-term changes and quick short-term eradication while wildlife stakeholders are looking at long-term eradication strategy. There is little incentive in this program for wildlife stakeholders to kill more deer or cooperate with cattle producers. Landowners (wildlife stakeholders) feel strongly that this is much more of a livestock issue than a wildlife issue and therefore are poorly motivated to help. Michigan DNR is currently working on a wildlife model that will estimate at what deer prevalence transmission to cattle cease to be a problem.
- Perhaps we could require feed sellers to take name of customers who purchase bait/feed.
- The MUCC involve sportsmen; perhaps they could push for legislative change. The punishment needs to fit the crime to safeguard the deer population.
- Hunters and farmers need to communicate to change perspectives on TB. Education is essential. Some cattle ranchers are reluctant to kill deer because their neighbors like them and are baiting them.
- Kill all deer in high-risk infected areas. Drop poison pellets by helicopter.
- Standardize requirements and management practices, and possibly coordinate with U.S. Fish and Wildlife in the case of wildlife.

Suggestions from Public and Written Comments

- Ensure enforcement and prosecution to stop all feeding and baiting in lower Michigan by enforcing penalties until the practice stops.
- Supply the funds for fencing, feeders and waterers to cattle farms in the MAZ to prevent deer from coming in contact with cattle.
- Enact policies and supply funds for fencing, structures, and equipment to ensure that all cattle feed in the TB-infected area is kept away from deer in areas where TB has been found in the deer and elk herd.
- Continue to supply disease control permits to farmers in the infected area to remove deer from areas where cattle are kept.
- Eliminate the eligibility of wild game species being raised as domestic livestock for USDA indemnification programs. Wild game species must not be drawing upon already scarce USDA TB funding for domestic livestock.

Miscellaneous

Comments from Focus Group

- Goal-specific timelines and performance measures are needed. Actions needed to be targeted.
- If we “live with TB” can we meet our number one goal? What about TB-free States?
- The current program is punitive. For example, many producers on the U.P. have been put out of business even though the area is TB-free. We must change ways of managing disease so we don’t eliminate producers.
- TB is spreading to the growing feral swine population in the State.
- Timelines: If we are going to do something, let's do something. We have got a lot of data. We have been testing these animals; we have been testing these domestic livestock animals for ten years.

Comments from Public and Written Comments

- I think we are going in the right direction, I believe, and think we're focused in the right direction.
- I think it is important for the stakeholders to have a voice in and a chance to give input into this picketed issue.
- We have got the information we need to identify where TB comes from in the State of Michigan. We have got a lot of investment involved in TB. We have an infrastructure there that is ongoing.
- Let's target the disease. We have the slaughter industry, we have the modified accredited (MA) zone, which goes through an annual overt test, and we have random testing in the MA zone.
- We need to look at those producers to find out what they were doing and how they were able to keep the disease from getting into their herd. They ought to get credit for that. They worked very hard to keep the disease out of their herd and we ought to reward them for that.
- We have done it collaboratively working with industry and the USDA and our other agency partners, which is a very important piece of this work and I believe in open transparency and moving things along as rapidly as possible because that is how we need to do it. I think the USDA has entered in being here as being a very significant component of that.
- Farming is certainly not the same enterprise that it was a hundred years ago. Dealing with TB needs to not be the same enterprise it was a hundred years ago or earlier in the program. We need to look at the value of the things we do versus the cost. Looking at a .006 redactor? We have got to be very precise in determining what those things are in order to get the best value out of the money that we have.
- Who is unsatisfied with the lack of progress in dealing with TB in northern Michigan?

- Continued management of the TB problem as in the past could result in the potential loss of more herds of cattle in northern Michigan and significant monetary losses for all Michigan cattleman.
- Property values for farmers in the MAZ are declining, and some of this loss is due to TB issues.
- According to State records, only 20 of the 39 herds that were infected with TB now have cattle.
- TB is putting many cattle producers out of business
- We want an aggressive plan based upon science to stop the spread of TB and develop a plan to eradicate TB from the deer herd and cattle herd in the core TB area.
- Michigan officials need to have confidence in the producers, educate the general public, and realize tuberculosis has no boundaries.
- Does bovine tuberculosis live on the forages, on the ground? Research has changed the answer over the years. In the beginning, the answer was probably not, or maybe in cold, wet, dark, swamp-type environment. The answer now is yes—cold, damp, shaded and on hay and grasses, grain stocks. If this is true, then can haylage, corn silage can carry the disease to storage?
- For more than a decade Michigan has been struggling with issues related to surveillance, control, eradication, and prevention of this disease.
- We appreciate APHIS and industry coming together to take a serious look at how we approach this disease with the tools that are available and with an eye towards the future economic realities that will affect how we move forward to address this disease in the future.
- As we deal with the impacts of this devastating disease, we are interested in working collaboratively with USDA to improve the national TB program to ensure that we meet its long-term goal of protecting human and animal health by eradicating the disease from cattle herds across the nation.
- In general, we believe that greater flexibility should be provided for in the TB program based on the level of risk involved, wildlife mitigation steps being taken, and cost effectiveness. This will allow for greater efficiencies in the management of bovine TB. To that end, we support the following provisions as they relate to bovine TB eradication efforts.
- We propose the establishment of a “National Conference on Interstate Cattle Movement” that would follow a similar process established by the National Conference on Interstate Milk Shipments (NCIMS). An approach comparable to the NCIMS could be incorporated to allow for the free movement and marketing of cattle in all States that are accredited TB-free. All States would be represented by their State Veterinarian and would be the only individuals that would be allowed voting rights. Industry organizations could still have the opportunity to be involved in the process by providing input and suggestions as they do through the NCIMS. The State Veterinarians would be charged with establishing minimum requirements on cattle movement regardless of State lines. Individual States would have the opportunity to impose further restrictions within their State; however it would not restrict movement of cattle interstate. This concept would allow for USDA to have the final say in the establishment and implementation of

the movement requirements. Once the minimum requirements have been established and if a State decides not to participate in the minimum requirements, we propose that the State should not be allowed to market their cattle across State lines.

Suggestions from Focus Group

- Need to identify all risks of TB exposure.
- The program needs to be integrated and more consideration taken of the risk posed not only by Mexican-origin cattle but also by the movement of dairy cattle all over the country for pasturing.
- Focus on disease transmission risks and less on political boundaries; allows better use of limited resources.
- Create an overarching authority in the State (TB Czar) which would have authority over all departments to meet a set of goals; replace independent agencies with seemingly no accountability for results. Similar to approach utilized by New Zealand in which authority was removed from agriculture and wildlife agencies and given to an executive board.
- Add increased flexibility to the current disease control permit process in order to improve the ability of producers to address deer issues on their property (permits should be for land area not pre-identified shooters).
- The program should consist of VS publicly itemizing what a State should do to eradicate the disease and letting public pressure build for States to comply. Michigan is currently in gridlock between producers and landowners in the MAZ and no one is acting like a leader. The program needs a leader to guide program in the right direction and that leader should be VS right now.
- We need to develop a unified approach to TB control.

Suggestions from Public and Written Comments

- Create additional incentives for adoption of biosecurity and compliance measures.
- Pursue launching a pilot project that provides a framework for more intensive coordination of wildlife and livestock TB eradication efforts.
- Work with States to build consensus regarding what constitutes “acceptable risk” for trading purposes.
- Conduct a thorough review of the risk factors that contribute to the spread of TB, including control methods to protect against the disease.

Roles and Responsibilities

Comments from Focus Group Respondents

- Leverage will have to come from the industry and then State veterinarians and APHIS.
- Industry: address biosecurity issues.
- USDA: 1) work with “TB free” States to get those States to accept a shift from zones based on political boundaries to ones based on circles around infected animals/farms; encourage other States to see the value in this approach in the event that a case is ever found in their State (brought up by many at the table as a very important issue; 2) ensure slaughter plants have capacity to read electronic tags (brought up by State ag); 3) work collaboratively with State to allow flexibility in rules (brought up by extension and producers); and 4) put changes in place in less than 3 years addressing movement/testing requirements first (brought up by producers)
- The Federal role should be to set standards and provide guidance. All felt that USDA should play a more active role in controlling wildlife or at least encouraging the States to take a more aggressive approach to wildlife. The group agreed that to solve the TB problem, we need to take multiagency approach (and include FSIS, FDA, CDC, and others). Several producers had issues with FSIS’ TB sample submission incentive program. They felt that it fuels the problem. USDA should play honest broker among the States – we should evaluate all the States and provide a “friendly venue” for States to collaborate and evaluate one another. The group agreed that the collection of samples (“serum bank”) is a uniquely Federal role. What tissues need to be collected? We need a protocol (setting that protocol is another Federal role). Vaccine research, another uniquely Federal responsibility, is needed.
- Industry needs to get involved in testing and surveillance and push for more consistent Federal regulations.

Federal

- Funding and Standardization.
- Allocation of dollars. The government can provide support in the short term and [bridge] what industry can’t do. Government can “make” people be responsible and kick start the process.
- The government can provide incentives and support. For example, provide money to build a fence to maintain a separation between cattle and cervids.
- Indemnity needs to be tied to mitigation efforts.
- USDA might be able to impact wildlife through access to private lands – for example, if you get certain Federal benefits, your lands must be open to hunters. A successful program could be a way to control deer populations on private property.

- Wildlife management plan, consensus of group: Outcomes=funding= accountability. NRC makes decision based on sound science; State issues should be tied to incentives
- This is outcome driven; outcomes should be tied to achieving goals.
- The Federal Government needs to provide minimum standards; economically sound rules/guidelines must be in place.

State

- Implementation and outcomes.

Producers/Industry

- Resources and accountability.
- There are long-standing practices for commodity crops, we need to modify our thinking and accept risks; for example, pasture animals in same area/close proximity to where deer congregate. Producers don't have roadblocks [or a reason to] to act responsibly – need assistance.
- To exclude livestock from natural water source is a change in behavior. There is value to using natural surface water, therefore funding/incentives are needed to change behavior.
- Industry financial support, such as a TB investment fee, is needed.
- We need to collaborate to generate funding; this is the industry being part of the solution.
- Greater involvement, resources and accountability.
- Market incentives – comply or the customer will not purchase product. Establish incentive/benefits to participate.
- Industries must step in and participate.
- The first-time infection is a breakdown in biosecurity—there are degrees of culpability.
- Risk must be in the equation; different rules are needed for high-risk areas. What would be the perception of the industry? Need more flexibility at the county level.
- Let the States define the rules; conduct a risk assessment with flexibility. Who's responsible/accountable? Who sets rules, goals, and accountability?
- Perhaps NRCS or the Ag Council could enforce rules—all must be at the table.
- Does that mean 50 individual TB programs? What about Ohio? Ohio is TB-free, but what do I need to do to prove the negative? Currently, no entity accepts my TB-free status.
- You cannot be restricted if you are TB-free.
- What about individual programs for the five TB States.
- We need a surveillance program for TB-free States—a gross check.
- Testing is not good enough. In the short term, the program is difficult.
- On a national level, funding needs to be tied to wildlife issues.
- TB in wildlife and TB in cattle need to be bound together.
- Tests aren't good enough.
- Commingling of Mexican cattle.
- What about traceability?

- Risk mitigation – feedlots next to herd.
- Producers bear burden; we must instill in producers a core change in behaviors. The livestock industry must step up.
- Change laws and risk mitigation. If you don't follow the rules, you risk losing an offer of indemnity.
- If your heifers are commingled, you lose indemnity.
- Indemnity tied to risk assessment and mitigation; first time no indemnity to herd without risk assessment plan. Is there a 'level' of indemnity? Possibly yes. For herds, tools need to be developed – State requirements.
- Viability of farmer – the farmer must be able to sell heifers in economic market.
- Program based on 'Federal review' gets away from the big issues. Develop guide for conducting business.
- Everyone needs to step up and take responsibility. We all have to work together; the USDA in Washington can't solve the problem by itself.

These summaries and points reflect the observations, opinions, and knowledge of listening session participants and other commenters. They are not fact-checked, nor do not they reflect the views of USDA.