

2011 SENATE AGRICULTURE

SB 2229

2011 SENATE STANDING COMMITTEE MINUTES

Senate Agriculture Committee
Roosevelt Park Room, State Capitol

SB 2229
January 27, 2011
13532

Conference Committee

Committee Clerk Signature

Greta Nelson

Explanation or reason for introduction of bill/resolution:

To provide an appropriation for the control of Johne's disease.

Minutes:

Attachments: #1, #2, #3, #4, #5

Senator Flakoll: Meeting called to order for SB 2229 January 27, 2011 10:30am

Senator Christmann: Legislative District 33. Defer to all committee's expertise on anything.

Senator Flakoll: Amendments drafted to make this a continuing appropriations....any thoughts?

Senator Christmann: That is good.....once we started this program 2 years ago. Johne's is a disease that affects the beef and dairy industry, but more noticeable in the dairy. Because of the way the cattle are being handledserious on our economy. Emphasis this is a serious problem in the cattle industry and can be diminished with proper testing.

Nathan Boehm: Dairy Farmer from Mandan (Attachment #1)

Senator Miller: How much money you have left over?

Nathan Boehm: We aren't through the test sheets yet.coming in throughout the year.

Senator Flakoll: Opinion on a question if we make this amendment for continuing appropriationwould that be favorable for you?

Nathan Boehm: I have no problem with this.

Senator Klein: Does it cost a lot to do to individual animals....all producers understand this program is available to them?

Nathan Boehm: Another person to answer

Senator Miller: What is the producer's share of the cost?

Nathan Boehm: Overall bill was \$1,500 and state gave back \$600. We don't want the program to be totally funded for them, we want it to be volunteer program....get in....we will help you clean up what you have and learn security and management technique .

Senator Luick: Is there a cure....is it transmitted to humans, other animals?

Nathan Boehm: Can be spread from older to young animals and can be spread to deer and they can in return infect to cattle. Crohn's disease has been a suspicion for human transmitting...not a concern in his opinion. If ever proven, would be very detrimental to the cattle industry.

Ryan Taylor: Senator from District 7 Here to provide backup support for the prime sponsor Senator Klein help to make the push.....this program works well....Very glad to be a co-sponsor in support of this bill.

Allan Tellman: Milk Producer (Attachment #2)

Senator Heckaman: does the protocol would be the same as everyone uses or varies case to case?

Allan Tellman: Basically the same.....how the farm is set up. Not let young animals be exposed to waste from older animals. Simple as arrangement of corrals Keeping the animals separate, draining direction.

Senator Heckaman: Is there medication to administer?

Allan Tellman: There is a vaccination program.....there is not a medication that will correct the animal is already infected....diagnosed positive.

Senator Larsen: Do you take them to auction for sale they have the disease? Is the disease spread when taken to auction?

Allan Tellman: Any tested positive go to slaughter. Tool "c punch" punches a "c" in ear so auction recognizes the cow is infected and not to go back into a herd.

Senator Murphy: Does sunlight have a killing effect

Allan Tellman: Protocol for disposal....sunlight does lessen the chance of spreading. Depends upon crop you raise on that field.....not want to raise a crop that has a mechanical harvester that picks hay up off groundcould pick up the fecal matter and go back into your feed supply. Small grain harvest where there is not a pick up device, straight cutting device, you would lessen the chance.

Jesse Vollmer: Assistant State Veterinarian (Attachment # 3)

Senator Flakoll: \$60,000 in federal funds, but roll up...turn back this time? Is 285 the proper number....maybe turn back \$60,000 in the program that wasn't used this biennium?

Jesse Vollmer: Turn back \$65,000 back ...the federal grants cycle runs March 1 to March 1, a year ago the person the west region ...justification for why should get money for Johne's include what your state gave you, we wrote out a justification that we would use the money to carry out (pay for our time) this program and they gave us \$60,000 to do that. Other part is because of length of time we test for the disease, we found out management and test wise....made a difference as it is two years incubation. Costly for the producers to get on the program. Board formed to arrive at cost/charges.

Jesse Vollmer; There is not a treatment for Johne's diseaseno connection with Crohn's human disease. Sub species new strains with other animals as bison, sheep, elk, and cattle.

Julie Ellingson: ND Stockman's Association (Attachment #4)

Eric Osmanstad: President of North Dakota Farm Bill in support of SB 2229

Gary Hoffman: Director of Dairy Collision in support of SB 2229

Nathan Boehm: Presented letter from Chad Wild (veterinarian New Salem) written testimony in support of SB 2229. (Attachment #5)

Senator Flakoll: Opposition?

Senator Flakoll Close hearing on SB 2229.

2011 SENATE STANDING COMMITTEE MINUTES

Senate Agriculture Committee
Roosevelt Park Room, State Capitol

SB 2229
January 27, 2011
13533

Conference Committee

Committee Clerk Signature

Explanation or reason for introduction of bill/resolution:

To provide an appropriation for the control of Johne's disease. (Timer 6.29)

Minutes:

No attachments.

Senator Flakoll: Please turn to SB 2229. Page 1 line 10 after the word disease insert " this appropriation is not subject to section 54-44.1-11. Ask Erik to come to podium and in general terms, explain what that does....just summarize/pull out some highlight.

Erik Escarraman: Provided with the amendment and reported the changes to SB 2229.

Senator Flakoll Does that allow the continuing appropriation?

Erik Escarraman: Essentially.

Senator Flakoll; Does it allow carry over of funds?

Erik Escarraman: Yes

Senator Flakoll: Question of clarity?

Senator Klein; Page 1 line 10. The last sentence of the bill would read "This appropriations is not subject to section 54-44.1-11 Motion made

Senator Murphy; second

Senator Flakoll; moved and second on page 1 line 10 after word disease insert "...this appropriation is not subject to section 54-44.1-11.

Senator Flakoll: Discussion?

Senator Flakoll: Clerk to take roll of adoption of amendment

Clerk: Roll.....7 yes/ 0 no/ 0 no

Senator Klein: Move SB 2229 as amended and re-referred to appropriations

Senator Luick; second

Senator Flakoll: Discussion?

Senator Flakoll: Ask clerk take roll for do pass as amended and re-referred SB 2229 to the committee on appropriations.

Clerk: Roll call vote 7 yes/ 0 no/ 0 no absent

Senator Flakoll Motion carries

Senator Flakoll: Senator Klein carries

Senator Flakoll Adjourned

PROPOSED AMENDMENTS TO SENATE BILL NO. 2229

Page 1, line 1, after "disease" insert "This appropriations is not subject to section 54-44.1-11."

Renumber accordingly

Date: 1-27-11

Roll Call Vote #: _____

2011 SENATE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. 7-0-0

Senate Senate Agriculture Committee

Check here for Conference Committee

Legislative Council Amendment Number 2229

Action Taken Adoption of amendment

Motion Made By Senator Seconded By _____

Representatives	Yes	No	Representatives	Yes	No
Senator Tim Flakoll	✓		Senator Joan Heckaman	✓	
Senator Oley Larsen	✓				
Senator Jerry Klein	✓				
Senator Larry Luick	✓				
Senator Joe Miller	✓				
Senator Bill Murphy	✓				

Total (Yes) 7 No 0

Absent _____

Floor Assignment _____

If the vote is on an amendment, briefly indicate intent:

Date: 1-27-11

Roll Call Vote #: _____

2011 SENATE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. 4-0-0

Senate Senate Agriculture Committee

Check here for Conference Committee

Legislative Council Amendment Number 2229

Action Taken Do pass

Motion Made By Senator Klein Seconded By Senator Luick

Representatives	Yes	No	Representatives	Yes	No
Senator Tim Flakoll	✓		Senator Joan Heckaman	✓	
Senator Oley Larsen	✓				
Senator Jerry Klein	✓				
Senator Larry Luick	✓				
Senator Joe Miller	✓				
Senator Bill Murphy	✓				

Total (Yes) 7 No 0

Absent _____

Floor Assignment Senator Klein

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

SB 2229: Agriculture Committee (Sen. Flakoll, Chairman) recommends DO PASS
(7 YEAS, 0 NAYS, 0 ABSENT AND NOT VOTING). SB 2229 was placed on the
Eleventh order on the calendar.

2011 SENATE APPROPRIATIONS

SB 2229

2011 SENATE STANDING COMMITTEE MINUTES

Senate Appropriations Committee
Harvest Room, State Capitol

SB 2229
February 3, 2011
13939

Conference Committee

Committee Clerk Signature 

Explanation or reason for introduction of bill/resolution:

A bill to provide an appropriation for the control of Johne's disease.

Minutes:

See attached testimony - # 1-5.

Chairman Holmberg called the committee hearing to order on SB 2229.

Becky J. Keller - Legislative Council; **Tammy R. Dolan** - OMB.

Senator Randell Christmann, District 33

Bill Sponsor - Testified in favor of SB 2229.

A similar program came before the legislature two years ago and the board of animal health has pointed out a flaw in bill that needs to be amended. The basis of this program is vitally important because this is a disease that can be dramatically reduced through testing. By providing some incentive, it can enhance the animal agriculture industry in North Dakota. There are people here who know about the disease, what to do about it, and they have also worked the program for two years.

Nathan Boehm, Farmer, Mandan

Testified in favor of SB 2229. Testimony attached - # 1

Reading from testimony and suggested an amendment to SB 2229. Line 7 of the bill states "the commissioner may award grants to livestock producers". I would suggest deleting "award grants to" and insert "reimburse" in their place. In discussion with producers and the state veterinarian, the feeling is that the program works very well as it currently is and would like it to continue that way. We feel that by making producers fill out grant applications would possibly be detrimental to increasing the number of producers participating in the voluntary program and increase the paperwork and time spent administering the program.

He urged the committee to support the bill.

Jesse Vollmer, Assistant State Veterinarian, State Board of Animal Health

Testified in favor of SB 2229. Testimony attached - # 2.

Senator Bowman asked if this disease is passed from generation to generation or is it spread through the grains that the animals are eating.

Jesse Vollmer said they see a lot mother to daughter, but it's not totally inherited. When the mother is highly infected, the bacteria is going throughout her entire system. We see some cases where we have in-utero transmission of the bacteria, but most commonly we think is that it's being passed through the colostrum so when the calf nurses its mother, he/she may be getting infected at that time.

Senator Bowman: How about the feed?

Jesse Vollmer said if there is a high level of splatter from a cow that is shedding a lot of organisms and the splatter may get on the feed for the calves. They stress doing the risk assessments and having our certified veterinarians go over the management plan and to maintain separation of age classes of animals. Then they wouldn't have animals that are shedding high numbers of organisms that are coming in contact young susceptible animals. It's harder to do in a beef herd, but that's where the PCR (polymerase chain reaction) test is nice because it's a quantifying test and it tells them if they have 10 positive animals in a herd, it tells them that animal #642 is shedding at this level; animal #346 is shedding at this level. Because of the CT (cycle time) values on the PCR test gives them an idea how much organism each animal is shedding.

Senator Bowman asked how much this disease cost the industry in a year.

Jesse Vollmer: We know in the dairy industry we have data and think it's about \$200/cow. We have asked for the research to be done nationally on beef herds to quantify that data. Beef cows are managed so differently from herd to herd. A herd in Texas to a herd in Ohio, that data is very difficult to obtain. We're on the program and Texas A&M University is doing a survey to quantify some of the data. The higher the prevalence in the herd, the more it costs.

Senator Wanzek asked why wasn't this originally requested in the budget?

Jesse Vollmer said from his understanding, it's because OMB interpreted the language in SB 2342 from the last session to say it was a one-time funding and would end this biennium.

Chairman Holmberg asked **Tammy Dolan, OMB** and she agreed.

Senator Wardner On the money, if someone has a sample they need tested, they have to pay something and the Agriculture Department pays through this fund too, like a copayment?

Jesse Vollmer: Yes, that is the way it works. In order for them to pay the producers, they have to do the risk assessment first, then they have to do the agreement form and also a W-9 form. Once they are on the program, we pay them at a certain rate for each testing procedure that they are using. If I have a beef herd, and I'm on the program and testing, I

would get paid \$150 for doing the risk assessment and doing all the paperwork. Then I'd get paid \$3.50 per ELISA test that I do. I get paid \$15.00 on each fecal confirmation test that I would do. It would be an individual fecal confirmation test on those positive ELISA test. If I chose to do individual fecal tests on my herd, I'd get paid \$15.00 for each individual fecal test. If I chose to do pool fecals, where I do individual samples from each cow, send it down to the lab, and the lab would pool them in groups of 5, then I'd get paid \$40 for each pool. The lab has a charge for each of those samples. The lab charges, of course, they have a session fee. It's a fee for them doing their paperwork of \$7 for each group of samples that come in, plus they charge on the ELISA or blood test. They charge \$5.50 for each test until up to 100. Once you're over 100 animals, then they charge \$4.50 for each test. On the fecal testing on individual animals, they're charging \$25 and if you have more than 100 individual animals, they are charging \$16.50. If you're doing the pool fecal testing, the lab is charging \$40 per pool, however, if that pool comes back positive, the lab splits out those 5 cows and runs them separately and they charge the producer \$15 for each of those. That's the producers responsibility when they split out. We're paying for the initial pool, but not for the split out. Plus they have to pay the veterinarian the cost of collecting the samples and for the cost of shipping the samples.

Senator Wardner How many producers do you have involved in this program?

Jesse Vollmer: About 125 beef herds that are enrolled in the program and 28 dairy herds in the program, and yes, it is a lot of work for them.

Senator Christmann: In going through those various tests, in an average size herd, the state is paying 1/3 of the cost?

Jesse Vollmer: It depends on which tests they are using and what the level of prevalence is in the herd. It's somewhere between 40-60% that the state is paying and it depends on what each veterinarian charges.

Sheyna Strommen, North Dakota Stockmen's Association.

Testified in favor of SB 2229. Testimony attached - # 3.

Allan Tellmann, Dairy Farmer, Milk Producers Association of North Dakota

Testified in favor of SB 2229. Testimony attached - # 4.

Letter of support also submitted by:

Keith Medalen, Rancher, Towner, ND

Testified in favor of SB 2229.

Written testimony submitted and attached # 5.

2011 SENATE STANDING COMMITTEE MINUTES

Senate Appropriations Committee
Harvest Room, State Capitol

SB 2229
February 17, 2011
Job # 14705

Conference Committee

Committee Clerk Signature

Rose Lansing

Explanation or reason for introduction of bill/resolution:

A committee vote on the bill to provide an appropriation for the control of John's disease.

Minutes:

You may make reference to "attached testimony."

Chairman Holmberg said this bill is now in the Ag Commissioner's budget with slightly less money.

Senator Warner moved Do Not Pass on SB 2229.
Senator Erbele seconded.

A Roll Call vote was taken. Yea: 13 Nay: 0 Absent: 0

Senator Wanzek will carry the bill.

Date: 2-17-11
Roll Call Vote # 1

2011 SENATE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. 2229

Senate _____ Committee _____

Check here for Conference Committee

Legislative Council Amendment Number _____

Action Taken: Do Pass Do Not Pass Amended Adopt Amendment
 Rerefer to Appropriations Reconsider

Motion Made By Warner Seconded By Erbele

Senators	Yes	No	Senators	Yes	No
Chairman Holmberg	✓		Senator Warner	✓	
Senator Bowman	✓		Senator O'Connell	✓	
Senator Grindberg	✓		Senator Robinson	✓	
Senator Christmann	✓				
Senator Wardner	✓				
Senator Kilzer	✓				
Senator Fischer	✓				
Senator Krebsbach	✓				
Senator Erbele	✓				
Senator Wanzek	✓				

Total (Yes) 13 No 0

Absent 0

Floor Assignment Wanzek

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

SB 2229, as engrossed: Appropriations Committee (Sen. Holmberg, Chairman)
recommends **DO NOT PASS** (13 YEAS, 0 NAYS, 0 ABSENT AND NOT VOTING).
Engrossed SB 2229 was placed on the Eleventh order on the calendar.

2011 TESTIMONY

SB 2229

Senate Bill 2229
Thursday, January 27th, 2011
Senate Agriculture Committee
Roosevelt Park Room



Chairman Flakoll and members of the committee, my name is Nathan Boehm and I am a dairy farmer from Mandan. I am here today to testify in support of Senate Bill 2229 which supplies funding for the North Dakota Voluntary Johne's Disease Control Program.

Johne's is an intestinal disease of cattle, sheep, goats, and cervids. It causes a hardening of the Illial Cecal portion of the lower intestine. The animal can then no longer absorb the nutrients it needs to survive and passes them on through and basically wastes way in starvation while appearing to have a very healthy appetite. The disease is spread via fecal/oral transmission with the younger the animal the higher the susceptibility to contract this disease. Positive animals are shedding the organism into the environment around them and will shed high numbers during stress events such as calving or high production. However, you cannot look at an animal and say it has Johne's. I have been on the volunteer program for ten years now and I have seen all facets of the disease. I have sold a positive cow to slaughter that weighed 2,175 lbs (very fat dairy cow) and had a positive cow die before we could get her to market. You need to test and confirm the animals status and then manage them accordingly. This is why we need to continue this voluntary program.

As I stated I have been on the program for ten years and had as high as 32% of my herd positive. Through aggressive culling and management changes that were implemented in cooperation with my veterinarian I am now under 2% test positive. We need to continue to add producers to this program and educate them on the necessary management skills to allow them to clean up their herds. I don't know that I would be milking anymore if we hadn't started on the program; because if we hadn't started testing and changing things through management I have no idea how high our infection rate would be right now.

I also have another commitment and that is as the dairy representative and chairman of the State Board of Animal Health. I see the workings of the program from the administrative side. We have had as many as 187 herds on the program but that number fluctuates year to year through attrition (dairy industry), to producers being frustrated with the amount of time it takes to see progress in controlling the disease. It is a very slow growing disease and you can't test animals under two years of age, so your youngest animals won't be tested until two years later. This can be very frustrating.

The legislature passed Senate Bill 2342 in 2009 and appropriated \$275,500 for this program. The money was spent on testing, education, and veterinary certification. You need to use a certified veterinarian to test your cattle and the veterinarian must be certified yearly to administer the program to their producers. We were awarded a matching federal grant of \$60,000 because the state passed this bill. We may have some money left at the

nd of the biennium because we spent the federal money first and spent the state appropriation diligently. We do know that we will not be receiving any federal matching dollars this time. This is why we are asking for the same amount as last session.

I have controlled Johne's and cleaned up a number of other diseases such as Bovine Leukosis and Hairy Heel Warts because of the biosecurity and management that I learned from this program. This increases my profitability in these trying times and this is what I want other producers to be able to do. This is why I urge a yes vote on Senate Bill 2229.

Thank You

Are there any Questions?

#2

Testimony of Allan W Tellmann
Milk Producers Association of North Dakota
In Support of SB ~~2222~~ 2229
January 29, 2009

Chairman Flakoll and members of the Senate Agriculture Committee:

For the record, my name is Allan Tellmann – I am a owner-operator of a Grade A family dairy farm north of New Salem. I am here today as ~~representative~~ of the Milk Producers Association of North Dakota. On behalf of the Milk Producers Association, I would encourage your support of SB ~~2222~~ 2229, which would continue to help fund the ND Voluntary Bovine Johne's Disease Control Program.

My experience as a dairy operator, probably best illustrates the importance of Johne's control in the North Dakota livestock industry as a whole. Some years ago, after a cow was unresponsive to basic digestive disorder treatment on the farm, we consulted our veterinarian for additional treatment and tests. The results of these tests revealed she was a Johne's positive cow. From that day on, Johne's was no longer a problem we read about in the livestock magazine on someone else's operation and someone else's problem. With the local veterinarian's assistance, and a protocol set up by the Johne's testing program, we have developed a management and culling program that increases our awareness of Johne's control.

Since then, we have made considerable progress in eliminating Johne's in our herd—going from 8 positive in a 200 cow herd, to 2 positive in the last testing.

The ND Johne's testing program offers valuable financial and educational incentives for dairy and all livestock producers. It introduces basic biosecurity awareness, and incorporates basic management practices that can be easily adapted to a livestock operation. The cost-share program serves as an incentive for participation, and is a valuable asset during this time of low or non-existent profits in the dairy and livestock industries.

The dairy industry of North Dakota appreciates your support and consideration of SB ~~2222~~ 2229.

Thank You.

Doug Goehring
AGRICULTURE COMMISSIONER

Dr. Susan Keller
STATE VETERINARIAN

Dr. Beth Carlson
CITY STATE VETERINARIAN

Dr. Jesse Vollmer
ASSISTANT STATE VETERINARIAN

Nathan Boehm Mandan
PRESIDENT, DAIRY CATTLE

Melvin Leland, Sidney, MT
SECRETARY, REG. PUREBRED CATTLE

Dr. Charlie Stoltenow, Fargo
CONSULTING VETERINARIAN



#3

Dr. Morgan Dallman, Beulah
VETERINARIAN

David Pearson, Hettinger
SHEEP

Joel Olson, Almont
COMMERCIAL BEEF CATTLE

Daryl Dukart, Dunn Center
SWINE

Dr. W.P. Tidball, Beach
VETERINARIAN

Dr. Kenneth Throlson, New Rockford
BISON

Shawn Schafer, Turtle Lake
NONTRADITIONAL LIVESTOCK

**STATE BOARD OF
ANIMAL HEALTH**

ND Department of Agriculture
600 E. Boulevard Ave. Dept. 602
Bismarck, ND 58505-0020
(701) 328-2655
1-800-242-7535
FAX (701) 328-4567

Equal Opportunity in Employment and Services

**Testimony of Jesse Vollmer, DVM
Assistant State Veterinarian
Senate Bill 2229
Senate Agriculture Committee
Roosevelt Park Room
January 27, 2011**

Chairman Flakoll and members of the Agricultural Committee, I am Assistant State Veterinarian Jesse Vollmer. I am here today on behalf of the North Dakota Department of Agriculture, Division of Animal Health and the State Board of Animal Health in support of SB 2229, which if passed will provide state funds to continue the ND Voluntary Johne's Disease Control Program.

Johne's disease is a bacterial disease of both wild and domestic ruminants, caused by *Mycobacterium avium ss. Paratuberculosis* (MAP). The disease causes chronic diarrhea and weight loss. There is no treatment for the disease and it is always fatal. There is a conditionally licensed vaccine that has many side effects including interfering with tuberculosis testing. The Mycobacterium is a relatively notorious group of problematic bacterium that has been around for at least 6,000 years. One member of the group caused a disease referred to in the Bible, leprosy. Another member of the group was the cause for much grief early in the twentieth century; *Mycobacterium bovis* was at a level of five percent in our national cow herd and prompted the development of the Federal Tuberculosis Eradication Program in 1917. Some Mycobacterium species are very difficult to deal with from a disease control standpoint. They are slow growing obligate intracellular pathogens, which mean they are hard to culture, and live inside of the host's cell (thereby hiding from the immune system). They may also live in the environment for a long period of time and have extremely long incubation periods.

Jesse Vollmer, DVM

Page Two

January 27, 2011

The program we are currently working with does more than just test and classify herds. The most important aspect of the Johne's disease program is the biosecurity and preventive actions that it teaches by completing and adhering to the management practices identified in the required risk assessment. If a farm/ranch is doing the management practices necessary to prevent Johne's, it will go a long way toward preventing other diseases that are also spread via fecal oral contamination. Primarily because of the way animals are handled and kept in closer confinement, this is a disease seen most commonly in dairy herds. Data from the 1996 dairy NAHMS study indicates that the cost to producers is over 200 dollars per cow per year in an infected herd. Data from the 2007 dairy NAHMS study indicates that 68.1% of dairy herds in the US have Johne's on the premises and that 25% of dairy operations have a relatively high prevalence level. Research indicates that about 8% of US beef herds are infected.

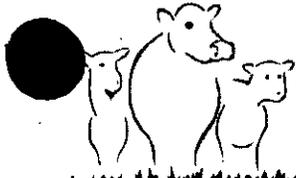
New Uniform Program Standards for the Voluntary Bovine Johne's Disease Program were approved September 1, 2010. The new standards were updated to reflect much of what we "thought" we knew 10 years ago. Additionally, the new standards promote whole herd testing and give more credence to using antigen (bacteria or DNA) detection tests. The new standards were "supposed" to be easier to understand. Serologic tests are good at telling us if there is possibly an infection in the herd, but very poor at telling us which animal in the herd is positive for the disease. The serologic test works adequately in herds held in close confinement year-round and that have a high prevalence rate. The federal program does not consider an animal infected unless it is by an antigen detecting test. The two antigen detecting tests currently being used are fecal culture and fecal PCR (polymerase chain reaction). Both tests are expensive, and the culture test can take up to twelve weeks. Pooling by the lab is allowed on both of the antigen detecting tests, which is helpful in defraying costs. The PCR test is a relatively new test, and we are still learning about many limitations and capabilities of the test. In our state and nationally, we have learned a great deal about Johne's disease in the past two years. We still have much to learn.

Jesse Vollmer, DVM

Page Three

January 27, 2011

The funds requested should cover the program at the current level of participation and some new participation for the upcoming biennium. Funding would be used to help defray the costs of testing for producers and the costs of performing the required risk assessments and the agreement forms by the private certified veterinarians and to carry out educational efforts to participating and nonparticipating producers as well as veterinarians on the disease. We deal with many diseases that affect animals and some are easier than others to diagnose, treat, eradicate, or control. This disease is expensive, time consuming, and difficult to deal with for impacted livestock producers in North Dakota. For these reasons, we urge a "do pass" on SB 2229.



Johne's Disease – Beef

NATIONAL JOHNE'S
EDUCATION INITIATIVE

Volume 3, Number 2

Winter 2011

A cooperative effort of the National Institute for Animal Agriculture, USDA, APHIS, Veterinary Services, in association with the National Johne's Working Group & United States Animal Health Association

Johne's Disease – What You Need to Know, Part I

While research shows that only eight out of 100 U.S. beef herds may be infected with *Mycobacterium avium* subspecies *paratuberculosis* (MAP), the organism that causes Johne's disease, Dr. Elizabeth Parker with the National Cattlemen's Beef Association stated at an October 2009 Johne's Disease Working Group meeting that "If you ignore any disease—including Johne's disease, it will become a threat."

A prevalence study conducted in the Georgia beef industry found that 4% of Georgia beef cattle test positive for Johne's disease—and this 4% infection rate is estimated to cost to the Georgia beef industry \$2.45 million to \$4.9 million each year. If 8% of U.S. beef herds are infected with Johne's disease—as research indicates—and the cost of the disease reflects the Georgia figures, then the cost of Johne's disease within the beef industry could reach \$100 million and up.

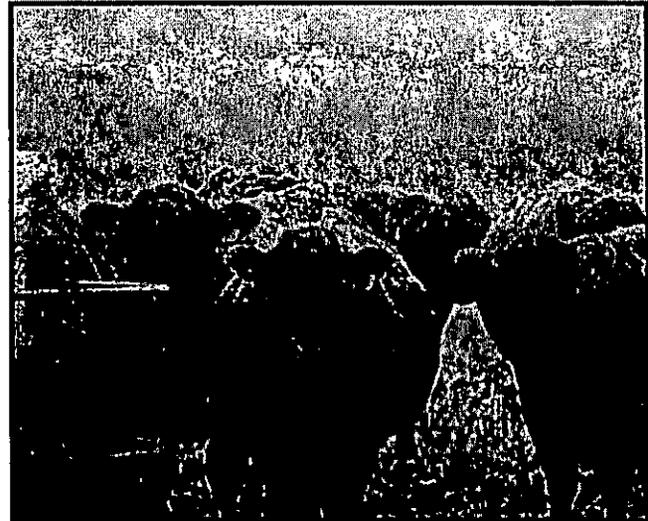
"That's good reason for beef producers to be aware of Johne's disease and take proactive steps to keep the disease from entering their herd," states Dr. Elisabeth Patton, chair of the National Johne's Disease Committee of the U.S. Animal Health Association. "At a minimum, beef producers should participate in the Voluntary Bovine Johne's Disease Control Program on at least the education and management levels.

"Johne's disease is an easy disease to buy as animals that show no clinical signs of Johne's disease can still be infected with MAP. Producers should always ask questions about a beef herd's Johne's disease status and only purchase from low-risk herds. I need to underscore the fact that no herd—beef or dairy—can say it is 'Johne's free.' Herds that have been tested and have no positive animals can only say that they are low-risk herds."

There are three stages of Johne's disease in cattle:

STAGE I: Cattle are infected but showing no clinical signs and not shedding MAP.

Typically this stage occurs in calves, heifers, and young stock less than two years of age and many adult animals exposed to small doses of the disease-causing



MAP, the bacteria that causes Johne's disease, doesn't take a break even in winter. Educate yourself about Johne's disease. Email info@johnesdisease.org today and request your free copy of "Johne's Disease Q&A for Bovine Producers."

organism. This stage progresses slowly over many months or years to Stage II.

STAGE II: Cattle are infected, shedding MAP but do not show clinical signs of the disease.

Typically this stage occurs in older heifers or adults. These animals pose a major, but often hidden, threat for infection of other animals through contamination of the environment.

STAGE III: Cattle are shedding MAP and showing clinical signs.

The onset of Stage III is often associated with a period of stress, such as recent calving. Cattle at this stage have intermittent, watery manure. Animals lose weight and gradually drop in milk production but continue to have a good appetite. Some animals appear to recover but often relapse in the next stress period. Most of these animals are shedding billions of MAP organisms that can infect herdmates and calves.

(Continued on Page 2)

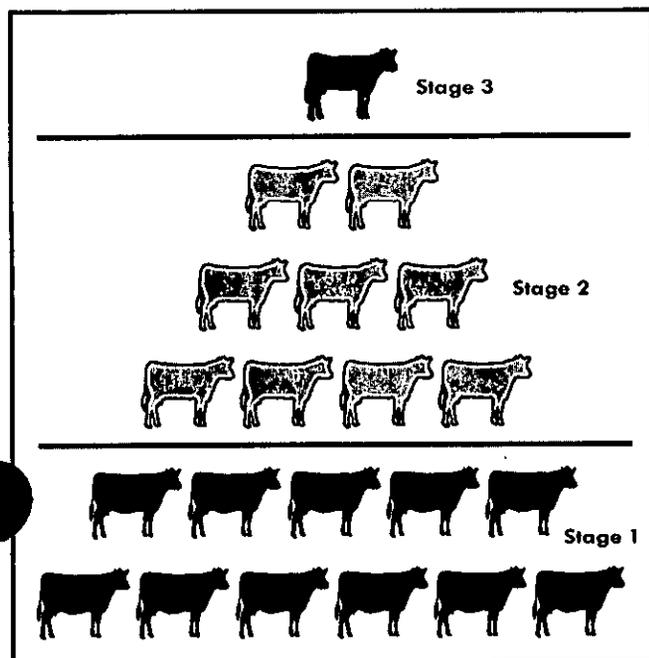


This e-newsletter is brought to you by the National Johne's Educational Initiative funded by USDA/APHIS/VS and managed by the National Institute for Animal Agriculture. Editor: Teres Lambert. To learn more about Johne's, visit www.johnesdisease.org.



In the final and terminal aspects of Stage III of the fatal disease, animals become emaciated with fluid diarrhea and develop "bottle jaw." The carcass may not pass meat inspection for human consumption in the later phases of Stage III.

'The Iceberg Phenomenon' – Infection in the Herd



In the typical herd, for every animal showing clinical signs (Stage III), many other cattle are present in the earlier stages of the disease. The clinical case represents only the "tip of the iceberg" of MAP infection.

For every Stage III cow you can expect:

- 1-2 more cows in Stage III (clinically diseased)
- 6-8 cows in Stage II (unapparent shedders)
- 10-15 cows in Stage I (infected but not shedding MAP)

The iceberg phenomenon illustrates the key concept in recognizing the potential impact that Johne's disease can have on a herd. That is, if the infection remains unchecked, the rate and number of infected animals in the herd increases progressively over time. Early diagnosis and prevention of spread, before clinical cases have surfaced, can avoid the development of Johne's disease into a significant herd problem five to ten years into the future.

Vaccine Project in Phase 2

With a strong interest among many producers and veterinarians to have a more effective vaccine to help protect against Johne's disease, USDA/APHIS/VS is funding a vaccine project overseen by the Johne's Disease Integrated Program. The first phase of the project was an in vitro screening of all submitted candidates in laboratories at the University of Wisconsin-Madison and the University of Minnesota. Phase 2, which has begun, is to evaluate the Top 10 candidates using a mouse model.

The top candidates identified in Phase 2 will then be evaluated using a goat model.

"The goat model provides results very similar to those expected from cattle, but they are obtained more rapidly and at a lower cost," states Dr. Ken Olson, JDIP Outreach Coordinator.

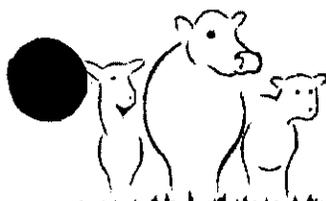
"It is anticipated that, at the end of this process, one or more vaccine candidates will be identified for potential commercial development."

Dr. Olson adds that the project, from start to finish, is expected to take approximately three years.

Editor's Note: Commonly referred to as JDIP, the Johne's Disease Integrated Program is a comprehensive consortium of scientists whose mission is to promote animal biosecurity through the development and support of projects designed specifically to enhance knowledge, promote education, develop real-world solutions and mitigate losses associated with Johne's Disease. The coming together of scientists promotes efficiencies through collaborative research and sharing the intellectual and physical resources that are critical to overall success.

For information about Johne's disease,
contact your
Designated Johne's Coordinator
Jesse L. Vollmer, DVM,
jlvollmer@nd.gov
Ph (701) 328-2655
or visit
www.johnesdisease.org





NATIONAL JOHNE'S EDUCATION INITIATIVE

JOHNE'S DISEASE – DAIRY

Volume 2, Number 3

Winter 2011

A cooperative effort of the National Institute for Animal Agriculture, USDA, APHIS, Veterinary Services in association with the National Johne's Working Group & United States Animal Health Association

Johne's Disease — What You Need to Know, Part I

The National Animal Health Monitoring Systems Dairy 2007 study indicates that 68.1 percent of U.S. dairy operations are infected with *Mycobacterium avium* subspecies *paratuberculosis* (MAP), the organism that causes Johne's disease. The 2007 NAHMS study also suggests that at least one in four U.S. dairy operations may have a relatively high percentage of Johne's-infected cows in their herds.

There are three stages of Johne's disease in cattle:

STAGE I: Cattle are infected but showing no clinical signs and not shedding MAP.

Typically this stage occurs in calves, heifers, and young stock less than two years of age and many adult animals exposed to small doses of the disease-causing organism. This stage progresses slowly over many months or years to Stage II.

STAGE II: Cattle are infected, shedding MAP but do not show clinical signs of the disease.

Typically this stage occurs in older heifers or adults. These animals pose a major, but often hidden, threat for infection of other animals through contamination of the environment.

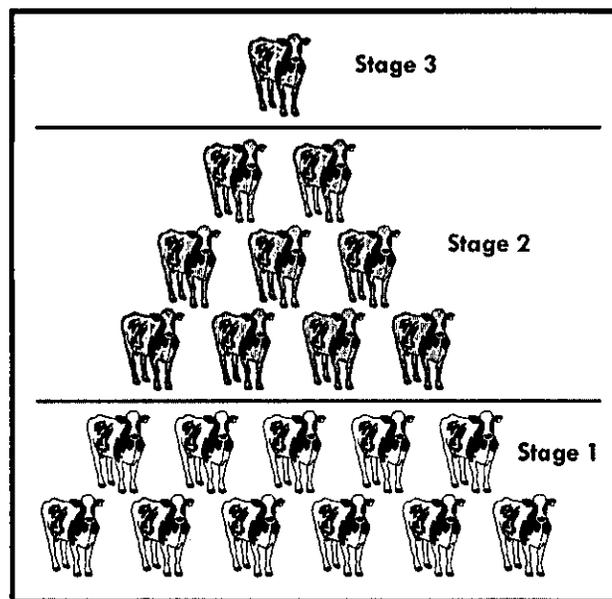
STAGE III: Cattle are shedding MAP and showing clinical signs.

The onset of Stage III is often associated with a period of stress, such as recent calving. Cattle at this stage have intermittent, watery manure. Animals lose weight and gradually drop in milk production but continue to have a good appetite.

Some animals appear to recover but often relapse in the next stress period. Most of these animals are shedding billions of MAP organisms that can infect herdmates and calves.

In the final and terminal aspects of Stage III of the fatal disease, animals become emaciated with fluid diarrhea and develop "bottle jaw." The carcass may not pass meat inspection for human consumption in the later phases of Stage III.

'The Iceberg Phenomenon' –



In the typical herd, for every animal showing clinical signs (Stage III), many other cattle are present in the earlier stages of the disease. The clinical case represents only the "tip of the iceberg" of the Johne's infection.

For every Stage III cow expect:

1-2 more cows in Stage III (clinically diseased)

6-8 cows in Stage II (unapparent shedders)

10-15 cows in Stage I (infected but not shedding MAP)

Researchers contend that, in a herd of 100 milking cows, two clinical cases at one time suggest 20-30 others are infected, and less than half of the infected cattle are detectable by fecal culture. If 25-30 animals are fecal

culture positive on a single test in a herd of 100 adult cattle, it is likely that at least 50 percent of the cattle (or 50 animals) in the herd are infected.

The iceberg phenomenon illustrates the key concept in recognizing the potential impact that Johne's disease can have on a herd. That is, if the infection remains unchecked, the rate and number of infected animals in the herd increases progressively over

time. Early diagnosis and prevention of spread, before clinical cases have surfaced, can avoid the development of Johne's disease into a significant herd problem five to ten years into the future.



This e-newsletter is brought to you by the National Johne's Educational Initiative funded by USDA/APHIS/VIS and managed by the National Institute for Animal Agriculture. Editor: Teres Lambert. To learn more about Johne's, visit www.johnesdisease.org.



New Research Quantifies Negative Impact of Johne's Disease on Reproduction

Johne's disease researchers and experts have long known that the bacteria that causes Johne's disease—*Mycobacterium avium* ssp. *Paratuberculosis*, commonly referred to as *MAP*—has a negative impact on dairy reproduction and often leads to culling, even early culling.

Additional research in this area confirms and quantifies the negative impact of Johne's disease on dairy reproduction. The results of the research were published in the August 2010 issue of the *Journal of Dairy Science*, Vol. 93, Issue 8, Pages 3513-3524. Researchers were R.L. Smith, R.L. Stawdermant, Y.H. Schukkent, S.J. Wells, A.K. Pradhant, L.A. Espejo, R.H. Whitlock, J.S. Van Bessell, J.M. Smith, D.R. Wolfgang and Y.T. Grhon.

To better understand the implications of *MAP* infections and Johne's disease in a dairy herd, the researchers calculated the rates of calving and culling for cows in each stage of *MAP* infection relative to uninfected cows.

Data from six commercial dairy herds—involving 2,818 cows with 2,754 calvings and 1,483 cullings—were used for analysis.

Cows in each study herd were individually tested on a regular basis for *MAP*, and herds were followed for four to seven years.

Johne's disease status, test-negative, low-positive (low-shedding or ELISA-positive only) or high-shedding was defined as a time-dependent

variable for all cows with at least one positive test result or two negative test results.

Research results show that non-shedding animals were significantly less likely to be culled in comparison with animals in the low-shedding or ELISA-positive category.

The researchers also observed an increased calving interval in animals shedding high levels of *MAP* compared with low-positive animals.



To learn more about the cost of Johne's disease to dairy producers, send an email to info@johnesdisease.org and ask for your free copy of the 16-page "Cost of Johne's Disease to Dairy Producers" booklet.

Vaccine Project in Phase 2

With a strong interest among many producers and veterinarians to have a more effective vaccine to help protect against Johne's disease, USDA/APHIS/VS is funding a vaccine project overseen by the Johne's Disease Integrated Program. The first phase of the project was an in vitro screening of all submitted candidates in laboratories at the University of Wisconsin-Madison and the University of Minnesota. Phase 2, which has begun, is to evaluate the Top 10 candidates using a mouse model.

The top candidates identified in phase 2 will then be evaluated using a goat model.

"The goat model provides results very similar to those expected from cattle, but they are obtained more

rapidly and at a lower cost," states Dr. Ken Olson, JDIP Outreach Coordinator.

"It is anticipated that, at the end of this process, one or more vaccine candidates will be identified for potential commercial development."

Dr. Olson adds that the project, from start to finish, is expected to take approximately three years.

Editor's Note: Commonly referred to as JDIP, the Johne's Disease Integrated Program is a comprehensive consortium of scientists whose mission is to promote animal biosecurity through the development and support of projects designed specifically to enhance knowledge, promote education, develop real-world solutions and mitigate losses associated with Johne's Disease. The coming together

of scientists promotes efficiencies through collaborative research and sharing the intellectual and physical resources that are critical to overall success.

For information about
Johne's disease
contact your Designated
Johne's Coordinator
Jesse L. Vollmer, DVM
jvollmer@nd.gov
Ph (701) 328-2655
or visit
www.johnesdisease.org

North Dakota



STOCKMEN'S ASSOCIATION

407 SOUTH SECOND STREET
BISMARCK, NORTH DAKOTA 58504
Ph: (701) 223-2522
Fax: (701) 223-2587
e-mail: ndsa@ndstockmen.org
www.ndstockmen.org

#4

SB 2229

Good morning, Chairman Flakoll, and Senate Agriculture Committee members. For the record, my name is Julie Ellingson and I represent the North Dakota Stockmen's Association.

The Stockmen's Association supports the continuing appropriation for the state's Johne's Disease testing program. Johne's Disease is a chronic wasting disease caused by *Mycobacterium paratuberculosis* that causes an inflamed intestinal tract resulting in severe weight loss, diarrhea and reduced milk production, as well as considerable production costs that impact producers' bottomlines.

Since its inception, the Johne's Disease program has aided many beef and dairy producers in testing their herds so as to identify possible infected animals, eliminate those infected animals and, ultimately, reduce the incidence of the disease here in North Dakota and the Upper Midwest. The program has also provided outreach materials to benefit even those whose cattle are not enrolled in the testing program.

The NDSA has policy supporting this program, and we'd ask for your favorable consideration of the continuance of it.

#5

1-26-2011

Senate Bill 2229
North Dakota Johnes Disease Program

I am Chad Wild a veterinarian from New Salem and I am writing in favor for Senate Bill 2229. Johnes disease is a very costly disease for our state's dairy and beef herds. Our clinic has many herds enrolled in the program and have experienced first hand the benefits of testing and monitoring these herds. Many herds have seen the number of affected animals decline dramatically through the program and herds have kept the disease under control through testing as well. I believe this program has a positive impact on our states cattle industry through education and giving an incentive for producers to monitor their herds for Johnes disease.

Thank You,

Chad Wild, DVM

Chad Wild

1

Senate Bill 2229
Thursday, February 3rd, 2011
Senate Appropriations Committee
Harvest Room

Chairman Holmberg and members of the committee, my name is Nathan Boehm and I am a dairy farmer from Mandan. I am here today to testify in support of Senate Bill 2229 which supplies funding for the North Dakota Voluntary Johne's Disease Control Program. Johne's is an intestinal disease of cattle, sheep, goats, and cervids. It causes a hardening of the Illial Cecal portion of the lower intestine. The animal can then no longer absorb the nutrients it needs to survive and passes them on through and basically wastes way in starvation while appearing to have a very healthy appetite. The disease is spread via fecal/oral transmission with the younger the animal the higher the susceptibility to contract this disease. Positive animals are shedding the organism into the environment around them and will shed high numbers during stress events such as calving or high production. However, you cannot look at an animal and say it has Johne's. I have been on the volunteer program for ten years now and I have seen all facets of the disease. I have sold a positive cow to slaughter that weighed 2,175 lbs (very fat dairy cow) and had a positive cow die before we could get her to market. You need to test and confirm the animals status and then manage them accordingly. This is why we need to continue this voluntary program.

As I stated I have been on the program for ten years and had as high as 32% of my herd positive. Through aggressive culling and management changes that were implemented in cooperation with my veterinarian I am now under 2% test positive. We need to continue to add producers to this program and educate them on the necessary management skills to allow them to clean up their herds. I don't know that I would be milking anymore if we hadn't started on the program; because if we hadn't started testing and changing things through management I have no idea how high our infection rate would be right now.

I also have another commitment and that is as the dairy representative and chairman of the State Board of Animal Health. I see the workings of the program from the administrative side. We have had as many as 187 herds on the program but that number fluctuates year to year through attrition (dairy industry), to producers being frustrated with the amount of time it takes to see progress in controlling the disease. It is a very slow growing disease and you can't test animals under two years of age, so your youngest animals won't be tested until two years later. This can be very frustrating.

The legislature passed Senate Bill 2342 in 2009 and appropriated \$275,500 for this program. The money was spent on testing, education, and veterinary certification. You need to use a certified veterinarian to test your cattle and the veterinarian must be certified yearly to administer the program to their producers. We were awarded a matching federal grant of \$60,000 because the state passed this bill. We spent the federal money first and

spent the state appropriation diligently. We do know that we will not be receiving any federal matching dollars this time. This is why we are asking for the same amount as last session.

I have controlled Johne's and cleaned up a number of other diseases such as Bovine Leukosis and Hairy Heel Warts because of the biosecurity and management that I learned from this program. This increases my profitability in these trying times and this is what I want other producers to be able to do. This is why I urge a yes vote on Senate Bill 2229.

Thank You

Are there any Questions?

Doug Goehring
AGRICULTURE COMMISSIONER

Dr. Susan Keller
STATE VETERINARIAN

Dr. Beth Carlson
DEPUTY STATE VETERINARIAN

Dr. Jesse Vollmer
ASSISTANT STATE VETERINARIAN

Nathan Boehm, Mandan
PRESIDENT, DAIRY CATTLE

Melvin Leland, Sidney, MT
SECRETARY, REG. PUREBRED CATTLE

Dr. Charlie Stoltenow, Fargo
CONSULTING VETERINARIAN



**STATE BOARD OF
ANIMAL HEALTH**
ND Department of Agriculture
600 E. Boulevard Ave. Dept. 602
Bismarck, ND 58505-0020
(701) 328-2655
1-800-242-7535
FAX (701) 328-4567

Equal Opportunity in Employment and Services

Dr. Morgan Dallman, Beulah
VETERINARIAN

David Pearson, Hettinger
SHEEP

Joel Olson, Almont
COMMERCIAL BEEF CATTLE

Daryl Dukart, Dunn Center
SWINE

Dr. W.P. Tidball, Beach
VETERINARIAN

Dr. Kenneth Throlson, New Rockford
BISON

Shawn Schafer, Turtle Lake
NONTRADITIONAL LIVESTOCK

**Testimony of Jesse Vollmer, DVM
Assistant State Veterinarian
Senate Bill 2229
Senate Appropriations Committee
Harvest Room
February 3, 2011**

Chairman Holmberg and members of the Appropriations Committee, I am Assistant State Veterinarian Jesse Vollmer. I am here today on behalf of the North Dakota Department of Agriculture, Division of Animal Health and the State Board of Animal Health in support of SB 2229, which if passed will provide state funds to continue the ND Voluntary Johne's Disease Control Program.

Johne's disease is a bacterial disease of both wild and domestic ruminants, caused by *Mycobacterium avium* ss. *Paratuberculosis* (MAP). The disease causes chronic diarrhea and weight loss. There is no treatment for the disease and it is always fatal. There is a conditionally licensed vaccine that has many side effects including interfering with tuberculosis testing. The *Mycobacterium* is a relatively notorious group of problematic bacterium that has been around for at least 6,000 years. One member of the group caused a disease referred to in the Bible, leprosy. Another member of the group was the cause for much grief early in the twentieth century; *Mycobacterium bovis* was at a level of five percent in our national cow herd and prompted the development of the Federal Tuberculosis Eradication Program in 1917. Some *Mycobacterium* species are very difficult to deal with from a disease control standpoint. They are slow growing obligate intracellular pathogens, which mean they are hard to culture, and live inside of the host's cell (thereby hiding from the immune system). They may also live in the environment for a long period of time and have extremely long incubation periods.

Jesse Vollmer, DVM

Page Two

February 3, 2011

The program we are currently working with does more than just test and classify herds. The most important aspect of the Johne's disease program is the biosecurity and preventive actions that it teaches by completing and adhering to the management practices identified in the required risk assessment. If a farm/ranch is doing the management practices necessary to prevent Johne's, it will go a long way toward preventing other diseases that are also spread via fecal oral contamination. Primarily because of the way animals are handled and kept in closer confinement, this is a disease seen most commonly in dairy herds. Data from the 1996 dairy NAHMS study indicates that the cost to producers is over 200 dollars per cow per year in an infected herd. Data from the 2007 dairy NAHMS study indicates that 68.1% of dairy herds in the US have Johne's on the premises and that 25% of dairy operations have a relatively high prevalence level. Research indicates that about 8% of US beef herds are infected.

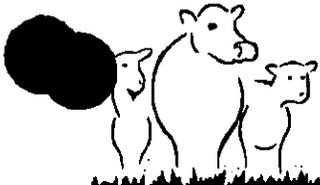
New Uniform Program Standards for the Voluntary Bovine Johne's Disease Program were approved September 1, 2010. The new standards were updated to reflect much of what we "thought" we knew 10 years ago. Additionally, the new standards promote whole herd testing and give more credence to using antigen (bacteria or DNA) detection tests. The new standards were "supposed" to be easier to understand. Serologic tests are good at telling us if there is possibly an infection in the herd, but very poor at telling us which animal in the herd is positive for the disease. The serologic test works adequately in herds held in close confinement year-round and that have a high prevalence rate. The federal program does not consider an animal infected unless it is by an antigen detecting test. The two antigen detecting tests currently being used are fecal culture and fecal PCR (polymerase chain reaction). Both tests are expensive, and the culture test can take up to twelve weeks. Pooling by the lab is allowed on both of the antigen detecting tests, which is helpful in defraying costs. The PCR test is a relatively new test, and we are still learning about many limitations and capabilities of the test. In our state and nationally, we have learned a great deal about Johne's disease in the past two years. We still have much to learn.

Jesse Vollmer, DVM

Page Three

February 3, 2011

The funds requested should cover the program at the current level of participation and some new participation for the upcoming biennium. Funding would be used to help defray the costs of testing for producers and the costs of performing the required risk assessments and the agreement forms by the private certified veterinarians and to carry out educational efforts to participating and nonparticipating producers as well as veterinarians on the disease. We deal with many diseases that affect animals and some are easier than others to diagnose, treat, eradicate, or control. This disease is expensive, time consuming, and difficult to deal with for impacted livestock producers in North Dakota. For these reasons, we urge a "do pass" on SB 2229.



Johne's Disease – Beef

NATIONAL JOHNE'S
EDUCATION INITIATIVE

Volume 3, Number 2

Winter 2011

A cooperative effort of the National Institute for Animal Agriculture, USDA, APHIS, Veterinary Services, in association with the National Johne's Working Group & United States Animal Health Association

Johne's Disease – What You Need to Know, Part I

While research shows that only eight out of 100 U.S. beef herds may be infected with *Mycobacterium avium* subspecies *paratuberculosis* (MAP), the organism that causes Johne's disease, Dr. Elizabeth Parker with the National Cattlemen's Beef Association stated at an October 2009 Johne's Disease Working Group meeting that "If you ignore any disease—including Johne's disease, it will become a threat."

A prevalence study conducted in the Georgia beef industry found that 4% of Georgia beef cattle test positive for Johne's disease—and this 4% infection rate is estimated to cost to the Georgia beef industry \$2.45 million to \$4.9 million each year. If 8% of U.S. beef herds are infected with Johne's disease—as research indicates and the cost of the disease reflects the Georgia figures, then the cost of Johne's disease within the beef industry could reach \$100 million and up.

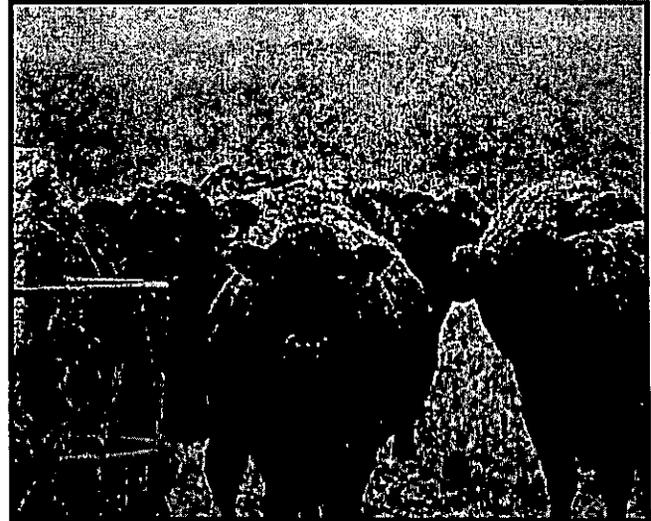
"That's good reason for beef producers to be aware of Johne's disease and take proactive steps to keep the disease from entering their herd," states Dr. Elisabeth Patton, chair of the National Johne's Disease Committee of the U.S. Animal Health Association. "At a minimum, beef producers should participate in the Voluntary Bovine Johne's Disease Control Program on at least the education and management levels.

"Johne's disease is an easy disease to buy as animals that show no clinical signs of Johne's disease can still be infected with MAP. Producers should always ask questions about a beef herd's Johne's disease status and only purchase from low-risk herds. I need to underscore the fact that no herd—beef or dairy—can say it is 'Johne's free.' Herds that have been tested and have no positive animals can only say that they are low-risk herds."

There are three stages of Johne's disease in cattle:

STAGE I: Cattle are infected but showing no clinical signs and not shedding MAP.

Typically this stage occurs in calves, heifers, and young stock less than two years of age and many adult animals exposed to small doses of the disease-causing



MAP, the bacteria that causes Johne's disease, doesn't take a break even in winter. Educate yourself about Johne's disease. Email info@johnesdisease.org today and request your free copy of "Johne's Disease Q&A for Bovine Producers."

organism. This stage progresses slowly over many months or years to Stage II.

STAGE II: Cattle are infected, shedding MAP but do not show clinical signs of the disease.

Typically this stage occurs in older heifers or adults. These animals pose a major, but often hidden, threat for infection of other animals through contamination of the environment.

STAGE III: Cattle are shedding MAP and showing clinical signs.

The onset of Stage III is often associated with a period of stress, such as recent calving. Cattle at this stage have intermittent, watery manure. Animals lose weight and gradually drop in milk production but continue to have a good appetite. Some animals appear to recover but often relapse in the next stress period. Most of these animals are shedding billions of MAP organisms that can infect herdmates and calves.

(Continued on Page 2)

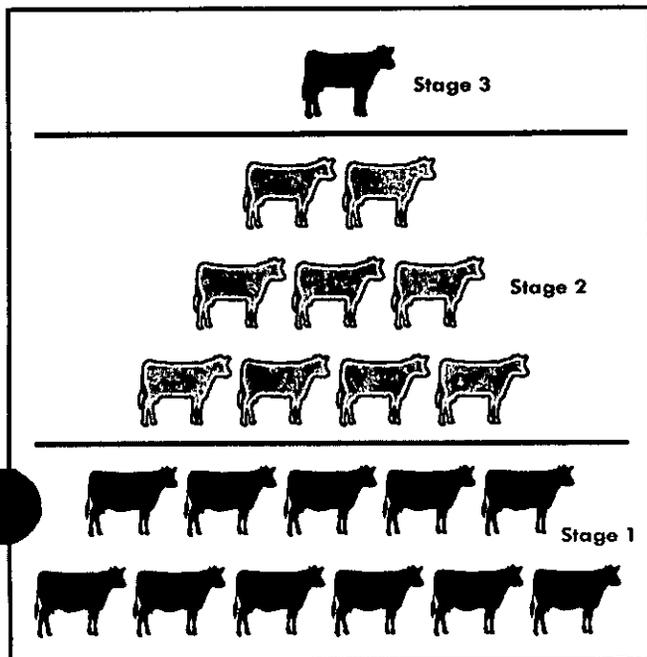


This e-newsletter is brought to you by the National Johne's Educational Initiative funded by USDA/APHIS/VS and managed by the National Institute for Animal Agriculture. Editor: Teres Lambert. To learn more about Johne's, visit www.johnesdisease.org.



In the final and terminal aspects of Stage III of the fatal disease, animals become emaciated with fluid diarrhea and develop "bottle jaw." The carcass may not pass meat inspection for human consumption in the later phases of Stage III.

'The Iceberg Phenomenon' – Infection in the Herd



In the typical herd, for every animal showing clinical signs (Stage III), many other cattle are present in the earlier stages of the disease. The clinical case represents only the "tip of the iceberg" of MAP infection.

For every Stage III cow you can expect:

1-2 more cows in Stage III (clinically diseased)

6-8 cows in Stage II (unapparent shedders)

10-15 cows in Stage I (infected but not shedding MAP)

The iceberg phenomenon illustrates the key concept in recognizing the potential impact that Johne's disease can have on a herd. That is, if the infection remains unchecked, the rate and number of infected animals in the herd increases progressively over time. Early diagnosis and prevention of spread, before clinical cases have surfaced, can avoid the development of Johne's disease into a significant herd problem five to ten years into the future.

Vaccine Project in Phase 2

With a strong interest among many producers and veterinarians to have a more effective vaccine to help protect against Johne's disease, USDA/APHIS/VS is funding a vaccine project overseen by the Johne's Disease Integrated Program. The first phase of the project was an in vitro screening of all submitted candidates in laboratories at the University of Wisconsin-Madison and the University of Minnesota. Phase 2, which has begun, is to evaluate the Top 10 candidates using a mouse model.

The top candidates identified in Phase 2 will then be evaluated using a goat model.

"The goat model provides results very similar to those expected from cattle, but they are obtained more rapidly and at a lower cost," states Dr. Ken Olson, JDIP Outreach Coordinator.

"It is anticipated that, at the end of this process, one or more vaccine candidates will be identified for potential commercial development."

Dr. Olson adds that the project, from start to finish, is expected to take approximately three years.

Editor's Note: Commonly referred to as JDIP, the Johne's Disease Integrated Program is a comprehensive consortium of scientists whose mission is to promote animal biosecurity through the development and support of projects designed specifically to enhance knowledge, promote education, develop real-world solutions and mitigate losses associated with Johne's Disease. The coming together of scientists promotes efficiencies through collaborative research and sharing the intellectual and physical resources that are critical to overall success.

For information about Johne's disease, contact your

Designated Johne's Coordinator

Jesse L. Vollmer, DVM,

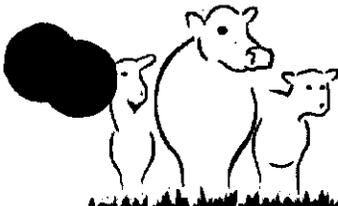
jlvollmer@nd.gov,

Ph (701) 328-2655

or visit

www.johnesdisease.org





NATIONAL JOHNE'S
EDUCATION INITIATIVE

JOHNE'S DISEASE – DAIRY

Volume 2, Number 3

Winter 2011

A cooperative effort of the National Institute for Animal Agriculture, USDA, APHIS, Veterinary Services, in association with the National Johne's Working Group & United States Animal Health Association

Johne's Disease — What You Need to Know, Part I

The National Animal Health Monitoring Systems Dairy 2007 study indicates that 68.1 percent of U.S. dairy operations are infected with *Mycobacterium avium* subspecies *paratuberculosis* (MAP), the organism that causes Johne's disease. The 2007 NAHMS study also suggests that at least one in four U.S. dairy operations may have a relatively high percentage of Johne's-infected cows in their herds.

There are three stages of Johne's disease in cattle:

STAGE I: Cattle are infected but showing no clinical signs and not shedding MAP.

Typically this stage occurs in calves, heifers, and young stock less than two years of age and many adult animals exposed to small doses of the disease-causing organism. This stage progresses slowly over many months or years to Stage II.

STAGE II: Cattle are infected, shedding MAP but do not show clinical signs of the disease.

Typically this stage occurs in older heifers or adults. These animals pose a major, but often hidden, threat for infection of other animals through contamination of the environment.

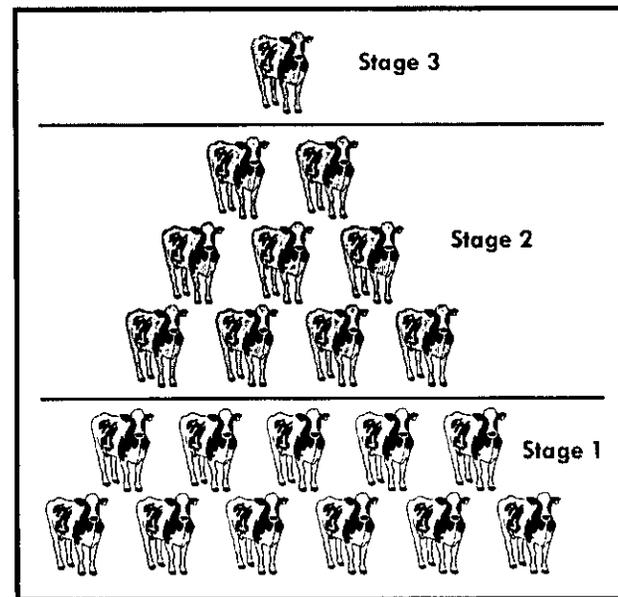
STAGE III: Cattle are shedding MAP and showing clinical signs.

The onset of Stage III is often associated with a period of stress, such as recent calving. Cattle at this stage have intermittent, watery manure. Animals lose weight and gradually drop in milk production but continue to have a good appetite.

Some animals appear to recover but often relapse in the next stress period. Most of these animals are shedding billions of MAP organisms that can infect herdmates and calves.

In the final and terminal aspects of Stage III of the fatal disease, animals become emaciated with fluid diarrhea and develop "bottle jaw." The carcass may not pass meat inspection for human consumption in the later phases of Stage III.

'The Iceberg Phenomenon' –



In the typical herd, for every animal showing clinical signs (Stage III), many other cattle are present in the earlier stages of the disease. The clinical case represents only the "tip of the iceberg" of the Johne's infection.

For every Stage III cow expect:

1-2 more cows in Stage III (clinically diseased)

6-8 cows in Stage II (unapparent shedders)

10-15 cows in Stage I (infected but not shedding MAP)

Researchers contend that, in a herd of 100 milking cows, two clinical cases at one time suggest 20-30 others are infected, and less than half of the infected cattle are detectable by fecal culture. If 25-30 animals are fecal

culture positive on a single test in a herd of 100 adult cattle, it is likely that at least 50 percent of the cattle (or 50 animals) in the herd are infected.

The iceberg phenomenon illustrates the key concept in recognizing the potential impact that Johne's disease can have on a herd. That is, if the infection remains unchecked, the rate and number of infected animals in the herd increases progressively over

time. Early diagnosis and prevention of spread, before clinical cases have surfaced, can avoid the development of Johne's disease into a significant herd problem five to ten years into the future.



This e-newsletter is brought to you by the National Johne's Educational Initiative funded by USDA/APHIS/VS and managed by the National Institute for Animal Agriculture. Editor: Teres Lambert. To learn more about Johne's, visit www.johnesdisease.org.



Johne's Disease Newsletter

New Research Quantifies Negative Impact of Johne's Disease on Reproduction

Johne's disease researchers and experts have long known that the bacteria that causes Johne's disease—*Mycobacterium avium* ssp. *Paratuberculosis*, commonly referred to as MAP—has a negative impact on dairy reproduction and often leads to culling, even early culling.

Additional research in this area confirms and quantifies the negative impact of Johne's disease on dairy reproduction. The results of the research were published in the August 2010 issue of the *Journal of Dairy Science*, Vol. 93, Issue 8, Pages 3513-3524. Researchers were R.L. Smith, R.L. Stawdermant, Y.H. Schukhent, S.J. Wells, A.K. Pradhant, L.A. Espejo, R.H. Whitlock, J.S. Van Kessel, J.M. Smith, D.R. Wolfgang and Y.T. Grhon.

To better understand the implications of MAP infections and Johne's disease in a dairy herd, the researchers calculated the rates of calving and culling for cows in each stage of MAP infection relative to uninfected cows.

Data from six commercial dairy herds—involving 2,818 cows with 2,754 calvings and 1,483 cullings—were used for analysis.

Cows in each study herd were individually tested on a regular basis for MAP, and herds were followed for four to seven years.

Johne's disease status, test-negative, low-positive (low-shedding or ELISA-positive only) or high-shedding was defined as a time-dependent

variable for all cows with at least one positive test result or two negative test results.

Research results show that non-shedding animals were significantly less likely to be culled in comparison with animals in the low-shedding or ELISA-positive category.

The researchers also observed an increased calving interval in animals shedding high levels of MAP compared with low-positive animals.



To learn more about the cost of Johne's disease to dairy producers, send an email to info@johnesdisease.org and ask for your free copy of the 16-page "Cost of Johne's Disease to Dairy Producers" booklet.

Vaccine Project in Phase 2

With a strong interest among many producers and veterinarians to have a more effective vaccine to help protect against Johne's disease, USDA/APHIS/VS is funding a vaccine project overseen by the Johne's Disease Integrated Program. The first phase of the project was an in vitro screening of all submitted candidates in laboratories at the University of Wisconsin-Madison and the University of Minnesota. Phase 2, which has begun, is to evaluate the Top 10 candidates using a mouse model.

The top candidates identified in Phase 2 will then be evaluated using a goat model.

"The goat model provides results very similar to those expected from cattle, but they are obtained more

rapidly and at a lower cost," states Dr. Ken Olson, JDIP Outreach Coordinator.

"It is anticipated that, at the end of this process, one or more vaccine candidates will be identified for potential commercial development."

Dr. Olson adds that the project, from start to finish, is expected to take approximately three years.

Editor's Note: Commonly referred to as JDIP, the Johne's Disease Integrated Program is a comprehensive consortium of scientists whose mission is to promote animal biosecurity through the development and support of projects designed specifically to enhance knowledge, promote education, develop real-world solutions and mitigate losses associated with Johne's Disease. The coming together

of scientists promotes efficiencies through collaborative research and sharing the intellectual and physical resources that are critical to overall success.

For information about
Johne's disease,
contact your Designated
Johne's Coordinator
Jesse L. Vollmer, DVM,
jvollmer@nd.gov,
Ph (701) 328-2655
or visit
www.johnesdisease.org

North Dakota



STOCKMEN'S ASSOCIATION

407 SOUTH SECOND STREET
BISMARCK, NORTH DAKOTA 58504
Ph: (701) 223-2522
Fax: (701) 223-2587
e-mail: ndsa@ndstockmen.org
www.ndstockmen.org

2-3-11

3

SB 2229

Good morning chairman Holmberg and members of the Senate Appropriations Committee. For the record, my name is Sheyna Strommen and I represent the North Dakota Stockmen's Association.

The North Dakota Stockmen's Association would like to go on record in support of SB 2229, which will continue funding for North Dakota's voluntary Johne's Disease Program.

Johne's Disease is a bacterial disease in both wild and domestic ruminants that causes chronic diarrhea, weight loss, and eventually, death. The disease has plagued the world for an estimated 6,000 years, and the cost to livestock producers has been in the billions in the form of lost production.

The program is designed to help producers pay for the costly Johne's tests, to provide technical assistance with risk assessments and agreement forms, to educate participating and non-participating producers and vets about the disease and, ultimately, to decrease its prevalence in our state. The NDSA believes in the value of testing and following up on the results to ensure that test-positive animals are eliminated.

We urge your favorable funding consideration of this bill.

Thank you.

Testimony of Allan W Tellmann
Milk Producers Association of North Dakota
In Support of SB 2229

Feb 3, 2011

Mr.Chairman and committee members:

For the record, my name is Allan Tellmann I am here today representing the Milk Producers Association of North Dakota. On behalf of the Milk Producers Association, I would encourage your support of SB 2229, which would continue to help fund the ND Voluntary Bovine Johne's Disease Control Program.

I am an owner-operator of a Grade A family dairy farm north of New Salem. Some years ago, after discovering we had a Johne's positive cow, we started a Johne's control program in our herd, with the help of our local veterinarian. With a protocol set up by the Johne's testing program, we developed a management and culling program that has enabled us to make considerable progress in eliminated Johne's in our herd—going from 8 positive in a 200-cow herd, to 1 positive in our testing last year. We feel we are on our way to being categorized as a Johne's -free herd.

The ND Johne's testing program offers valuable financial and educational incentives for dairy and all livestock producers. It introduces basic biosecurity awareness, and incorporates basic management practices that can be easily adapted to a livestock operation. The cost-share program serves as an incentive for participation, and is a valuable asset during these challenging times in the dairy and livestock industries.

The dairy industry of North Dakota appreciates your support and consideration of SB 2229.

Thank You.

Chairman Holmberg and members of the Appropriations Committee, I am Keith Medalen, a rancher from Towner. I would definitely like to see the funding for cost sharing for Johne's testing is continued. The most important reason for this is because eliminating Johne's is not a quick fix. The organism that causes it can remain undetected for several years because it is so slow growing. Johne's testing requires a consistent every year approach. We have been on the program for testing for 5 years and it has definitely helped reduce this problem in our herd. And we plan to continue because I know we are not done. While there are many management changes that can be made in a cattle operation to reduce the chance of Johne's occurring, the only way to identify carriers is through every year testing so carrier animals can be removed from the herd.

ND beef and dairy producers have benefitted from this cost sharing program greatly not only from cost share for the testing but also from the education about the disease. The ND State Veterinary Dept and the Veterinary Diagnostic Laboratory at North Dakota State University have done a wonderful job in helping to eliminate Johne's Disease and assisting cattle producers in our state.

Thank you

Keith Medalen

Towner, ND