

## MSU Researchers Work to Eradicate BVD from Michigan's Upper Peninsula

Is it possible to eradicate bovine viral diarrhea (BVD) from Michigan's Upper Peninsula cattle herd?

This is the question that Michigan State University (MSU) researchers, Extension specialists, and local and state large animal veterinarians are asking as they continue to implement an aggressive three-step animal disease eradication program with the region's producers. The plan includes incorporating equal doses of education about the disease, disease testing and training to put disease control management strategies into practice.

BVD is a highly contagious disease that spreads quickly through a herd. Animals infected with the virus encounter reproduction and productivity problems that lead to thousands of dollars in losses for a farm. It is estimated that BVD is the most costly viral disease in today's U.S. cattle herds, costing an estimated \$2 billion per year.

"BVD is an underlying issue on many farms," says Dan Grooms, MSU associate professor of large animal clinical sciences and a large animal veterinarian. "BVD can cause reproduction problems and abortions in cattle. It can also inhibit the immune system, which leads to many other issues, including pneumonia."

The MSU team received funding from the U.S. Department of Agriculture, Pfizer Animal Health and the MSU Animal Agriculture Initiative to develop producer education programs in the Upper Peninsula to help rid the region of this costly animal disease.

"One of our objectives is to see if it's possible to eradicate a specific



*MMPA Member Jim Kronemeyer, from Pickford, learned firsthand the devastating effects BVD can have on a herd.*

disease within a geographical area," Grooms says. "We chose the Upper Peninsula because of its easily defined region. If we are successful with this program in this area, we will implement it in other regions of the state."

Grooms, along with Steve Bolin, from the MSU Diagnostic Center for Population and Animal Health, and Ben Bartlett, MSU Extension dairy and livestock educator, launched the BVD eradication program with a series of producer meetings in December 2007. Following these meetings, Bartlett visited with individual farmers about becoming involved with the eradication program. Through the program, farmers learned proper vaccination and biosecurity measures. The herds were also tested to determine the rate of infection, if any, present in each herd.

"The key to eradicating BVD from a herd is to eliminate any persistently infected (PI) cattle," Grooms says. "PI cattle transmit the

virus to their unborn fetuses. The PI cows become unsuspecting disease reservoirs, spreading the disease both on and between farms."

The BVD eradication program is in its second year.

When Jim Kronemeyer learned about the BVD eradication efforts under way in his area, he was quick to sign up for the program. Jim had firsthand experience with the damage one PI animal could do to a herd.

Jim and his father, John, own a 250-head registered Holstein herd in Pickford, Mich. Four years ago, they unknowingly brought one PI heifer into their herd. That one cow caused the loss of more than 30 calves and cost them thousands of dollars in animal losses, genetic losses and milk production.

"We now know the importance of testing all animals and taking measures to control this disease," Jim Kronemeyer says. "We encouraged everyone to go to the Extension meeting to learn about controlling the disease. We wish we

would have had this information a few years earlier.”

The Kronenmeyers are still working through the devastation caused by the BVD outbreak in their herd. They lost more than a dozen calves before they determined that BVD was present in the herd. It was at that point that they tested all the animals in the herd and culled nearly 30 more to eradicate the disease from the herd.

“We were having trouble raising calves; they were born sluggish and didn’t do well. Several died. Our vet tested one of the calves and found it was infected with BVD,” Jim explains.

Testing on the Kronenmeyer farm revealed that all the infections traced back to one 14-month-old open heifer they had purchased from another farm. The infection passed from the dams to the calves in utero. The dams were not infected because they had been vaccinated.

“Since we got rid of the PI cow and calves, we have not had any other problems,” Jim says. “We now ear-notch any new animals coming into the herd and keep them in quarantine until we get the test results back.”

The Kronenmeyers’ biosecurity measures are in line with the information presented by the MSU researchers. Through the meetings and on-farm visits, Bartlett and Grooms are working to explain the importance of testing all animals and screening any new animals before they enter the herd.

Along with identifying and removing all PI animals from a herd, the MSU researchers are also stressing the need for proper vaccination programs. Grooms says that many producers are not properly vaccinating their animals.

This can lead to the possibility of infections later on.

“We need to improve how people vaccinate their cattle,” he says. “Most producers have programs in place, but they are not good enough to prevent infections. Part of our program is targeted at teaching producers about proper handling and use of BVD vaccines.”

The MSU research team plans to continue the program over the next three years, eventually reaching more than 90 percent of the cattle in the U.P.

In addition to providing funding to support the eradication research and demonstration project, funding for Grooms’ position with an emphasis on cattle disease management was made possible by the Animal Agriculture Initiative (AAI) at MSU. The AAI was established in 1996 as part of the grass-roots-driven Revitalization of Animal Agriculture in Michigan Initiative.

Michigan’s animal agriculture research, teaching and Extension initiative housed at MSU, the AAI is a partnership between MSU, livestock producers and industry organizations, and the Michigan Department of Agriculture and governed by the AAI Coalition. Its objective is to address challenges facing Michigan animal-based agriculture through research and Extension projects.

The Michigan Animal Agriculture Initiative at MSU is vital to the health of the state’s economy. A survey commissioned by the AAI in 2007 reveals that nearly \$22.9 million in annual economic activity can be linked back to the initiative. AAI-funded research adds \$11.5 million annually to the state’s economy, and for every state tax dollar invested in the AAI, the initiative returns \$3.40 in gross state product.

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is determined by the member and Milking Systems Specialist when enrolling in the program and can be changed or discontinued at any time without obligation to the member.

The cost of \$100 per evaluation is assessed after the evaluation has been conducted. Static, dynamic, and CIP evaluations are stand-alone evaluations so if a member has all three evaluations performed in the same month, the member will be assessed \$300 that month. Currently, if the member purchases 100 percent of their cleaners, sanitizers and teat dips through the Member Merchandise Program, the cost of the CIP evaluation will be waived (contact the Milking Systems Specialist or the Novi office for details).

We have moved very deliberately on the program to keep field services cost down. We are now able to add more farms to the program. As more member representatives complete milking systems training, this program will be expanded to serve all members who request this service.

If you would like more information or to sign up for the program, please contact your member representative or the Novi office.

