BVD-PI Eradication: Unintended Consequences

Bovine Virus Diarrhea (BVD) is a costly viral disease that can inhibit conception and the immune system and cause abortions, birth defects, and pneumonia. A ground-breaking effort to eradicate BVD from Michigan’s Upper Peninsula is currently underway. While the 3-year study is far from over, some lessons already have been learned, and progress is reported here.

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Bovine Virus Diarrhea (BVD) is the most costly viral disease in US cattle herds, costing an estimated 2 billion dollars per year. The disease can inhibit conception, cause abortions and birth defects, cause pneumonia, and inhibit the immune system making cattle more susceptible to other diseases. Because BVD can infect the unborn fetus before it has developed an immune system, calves are sometimes born persistently infected (PI) with the BVD virus. While not all PI calves survive, some calves are born looking completely normal and are shedding large amounts of BVD virus in all their secretions for their entire lives. These PI animals serve as a BVD disease reservoir, a “typhoid Mary”, and make controlling the disease very difficult.

The dairy and beef cattle producers of Michigan’s Upper Peninsula are cooperating with MSU (College of Veterinary Medicine, Diagnostic Center for Population and Animal Health, and UP Extension) and Pfizer Animal Health for the next 3 years in a program to identify and eliminate all animals persistently infected with Bovine Virus Diarrhea (BVD-PI). This project will be the first time in the US that an entire geographical region will have tried to eliminate all BVD-PI cattle. The Upper Peninsula is ideal for this project because it is an isolated geographic region, has a variety of large and small herds, and most cattle movement is out of the UP.

Here is a short overview of the eradication program. After informational meetings in December 2007, a number of meetings were held across the UP for producers to come in and sign up for the BVD-PI eradication program. We talked one-on-one with each producer to get general background information and to create a testing program that would cover all cattle on each farm, but be as easy as possible for each farm to implement. Each producer will collect an ear notch and deliver those samples to a local MSU Extension offices which will then ship samples to the MSU diagnostic laboratory.
The expected outcomes of this BVD-PI eradication project will be an increase in general herd health in the hopefully few herds that have PI cattle and the assurance that a herd is BVD-PI-free in herds that test negative. We also hope that over time, the tested negative status of UP herds will add value to the animals when sold as feeders or replacements.

While the program is just beginning, as with any program there are always “unintended consequences,” or things that have occurred that were not expected. Here are some anecdotal events worth noting.

In one region, a producer asked for a meeting be held in an area with few producers. All but one cattle producer was in attendance to sign up for the program and the producer sent someone to look for the person who was missing. This producer understood the value of having the entire neighborhood involved and went the extra mile to make it happen.

One producer couldn’t wait for us to start testing after hearing the symptoms of BVD-PI infected herds. His fears were correct when he identified an infected dam and daughter in his medium-sized operation. When we discussed the eradication program, it was obvious that, while the current testing program had found two positive cattle, it was not adequate to screen his entire herd. The lesson learned was that a testing program needs to be carefully planned to screen the entire herd in a timely manner.

The phone call that really told us we had made an impact was when a fellow in a very remote part of the UP called and said he needed to get his two cows tested so he could take them to his neighbor’s for breeding. People are concerned about biosecurity.

The BVD-PI eradication effort will be analyzed to assess its impact as the program progresses. Currently, 152 herds have signed up for the program, representing about 11,008 cattle with 94 farms submitting 3,709 samples for testing so far. It is evident through the “unintended consequences” that this BVD-PI eradication program already has made significant impact on many cattle operations across Michigan’s Upper Peninsula, even before a positive BVD-PI sample has been identified.