

Understanding Bovine Viral Diarrhea, Part 2

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Last month we discussed the disease Bovine Viral Diarrhea (BVD). Bovine viral diarrhea is a serious disease that can have severe economic impacts in an infected herd, with the potential to spread to other herds through close contact. Given the complexity of the disease and the wide variety of control options available, this month we will answer some of the most frequently-asked-questions that we receive about the disease.

Frequently asked questions:

I would like to purchase some bred heifers this fall. If they are vaccinated, does that eliminate my risk of bringing PI animals into my herd?

No vaccine provides 100% protection against infection or disease. It is important to know the type of vaccine used and when it was administered to ensure it was given in the most effective manner possible. The risk also depends on the herd health history of the seller's herd. If the herd practices good biosecurity and has a good vaccination program, the risk of BVD will be much lower. Pregnant animals with an unknown vaccination or health history pose the biggest risk of bringing in a BVD persistently infected (PI) animal. They should be isolated from the rest of the herd until they have calved and both they and their calves tested negative for BVDV.

Will vaccination of pregnant cows with a modified-live BVD vaccine cause them to have PI calves?

No. As long as the vaccination is used according to label, there is little chance of causing either a persistent infection in fetuses or a transient infection in calves or cows following vaccination with a modified-live vaccine.

Will vaccination of calves cause them to have a positive BVD test?

With the newer antigen-based testing methods, such as those used on ear notch samples, vaccinated animals will very rarely falsely test positive. However, depending on the timing of the test, maternal antibodies and vaccines can occasionally cause false-positive test results on blood tests or other antibody tests. Animals testing positive for BVD on an antibody test should be retested to differentiate persistent infection from transient infection.

I sell all of my calves at weaning. Why should I bother with the added expense of testing them?

There are several good reasons for testing. Testing calves for BVD PI is a good way to monitor your overall herd health plan. The presence of a PI calf in your herd indicates that there has been a break in your herd health plan somewhere along the line, whether it has been in your biosecurity plan or your vaccination protocol. Furthermore, having a reputation for healthy calves is also good business. Depending on your marketing strategy, you may also receive a premium for having negative PI calves.

I have a calf that tested positive for BVD. Does this mean he is a PI?

Not necessarily. Diagnostic tests can identify calves that are either PI or transiently infected (TI) with BVD. A PI animal will be infected for life, and can shed millions of virus particles in its nasal discharge, saliva, urine, semen, milk, and possibly feces. Transient, or acute, infections occur after birth and can result in fever, depression, reproductive problems (such as infertility, abortions), diarrhea, or respiratory disease, although some animals will show no outward signs of illness (subclinical disease). Most animals recover from transient infections, but some animals will remain as “poor-doers” or die. Depending on the situation, a second test performed 2 weeks later may be needed to differentiate a persistent versus transient infection.

Do all animals need to be tested for BVD PI, or just the calves?

It depends on your type of operation. Many long-term control programs for cow-calf operations require that all animals be initially tested in order to ensure the absence of adult PI animals in the herd, followed by subsequent yearly testing of calves and new additions.

I raise stocker cattle, and I only buy calves that look healthy. Why should I test for BVD, or purchase only BVD-negative animals?

Since they can shed millions of viral particles every day without showing clinical signs, PI animals serve as a constant source of BVDV exposure in a stocker herd. PI animals can continuously shed virus in saliva, mucous, tears, feces, urine, and any other bodily secretion. Numerous studies have shown that a single PI animal commingled with other susceptible calves can successfully transmit the transient form of the disease. Coupled with the fact that fresh calves may be stressed, immunocompromised, and more susceptible to disease, not testing for BVD can be costly to the stocker producer.

I've been told by my buyer that I had a “PI calf” in the last group of calves that I sold. What does that mean?

This usually means that the calf was tested at arrival by the buyer and found to be positive for a BVD persistent infection (PI). If you had a PI calf, that calf must have been exposed to BVD while still in utero through another infected animal or through its dam. Infected herds must identify PI animals and remove them from the herd. The dam of this calf should also be tested, and your herd veterinarian should be contacted to help implement a prevention and control program for the rest of the herd.

What are my options for disposal of a PI calf?

Any animal that tests positive for BVD-PI should be immediately isolated from the rest of the herd. That animal will never recover or become negative. In order to prevent the spread of BVD to other animals and herds, slaughter or humane euthanasia is recommended for a PI animal.

Where can I obtain additional information on BVD prevention and control?

Your herd veterinarian is the best source of information on BVD prevention and control. BVD is a complex disease with many manifestations and control options. He or she can give you specific recommendations for diagnostic testing schemes, vaccination protocols, and biosecurity practices for your specific operation.



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