

CanWest DHI

BVD Milk Testing Information Sheet

What is BVD?

Bovine Viral Diarrhea (BVD) is a viral infection in cattle and can result in significant economic losses. Infections are either Transient Infections (TI) or Persistent Infections (PI).

TIs are the result of exposure to the virus and in most cases the animal will mount a natural immune response and the infection will take its course in a few days, with no clinical signs of disease. However, ongoing exposure and transient infections passing from animal to animal results in a decline in herd performance. Common signs of infection include respiratory problems, infertility, and abortions. Infections eventually lead to reduced milk production and early culling.

On the other hand, PI animals are permanently infected, shed the virus for their entire life and will be a reservoir of BVD virus in your herd, thereby becoming an important cause of transient infections (TI) and herd performance problems. PI animals are generated by infection of unborn calves, when the dam is exposed to the BVD virus. PI calves most often do not survive to breeding age or enter the herd due to their compromised immune system, but when they do, become a main source of BVD exposure and infection for herd mates.

How do animals become infected?

Infected animals constantly shed the virus through bodily fluids and therefore direct animal contact is the most common method of transmission and exposure. Breeding-age PI heifers and adult PI cows shedding large amount of virus are a main source of herd BVD related reproductive issues.

What are the control measures?

Best Management Practices to help protect against BVD introduction and spread include:

- following a closed herd policy (if not possible, test animals prior to entering herd)
- implementation of on-farm biosecurity protocols
- comprehensive vaccination program
- identification and removal of PI animals, ideally at birth

Vaccination alone does not control BVD. Identifying and removing PI animals is also important. PI animals can be culled to slaughter as they are perfectly safe for human consumption. They should NOT be sold to other herds for dairy purposes.

When do I test for PI animals?

Traditionally, animals are identified through the testing of an ear notch sample. To identify PI animals, the sooner you test, the better, therefore, testing should be done on newborns.

However, with purchased animals and in other situations, this is not always possible.

Since PI infection occurs in the uterus, animals need to be tested only once in their lifetime. Once a PI animal, always a PI animal (and vice versa).

Milk testing options from DHI

Testing through routinely collected milk samples is now an option. For most herds, a group screening test is the best option. Positive results on a screening test can then be followed up with individual cow testing. Routine testing of individual animals without evidence or suspicion of the presence of BVD is not recommended and will likely provide a poor cost benefit return. However, in cases where a BVD infection is suspected, or with the introduction of new animals in the herd with unknown status, individual animal testing can be useful.

Using DHI milk samples, producers have the ability to:

1. Screen adult milking herd with the sensitive PCR test, through pooled samples
 - *DHI lab will sub-sample cows into Group pools (up to 250 cows maximum)*
 - *The Group pool(s) will be tested by PCR. If Positive, customers will be notified immediately and provided the option to test individual cows by ELISA*

This process avoids the testing of all individual cows and is a very cost effective way to routinely screen the adult herd for PI animals. Frequency of herd screening should consider many factors such as pattern of animal purchases, history of BVD in the herd etc., and should be discussed with your herd veterinarian.

2. Test selected cows with the cost-effective ELISA antigen test using the regular DHI sample (cows only need to be tested once in their lifetime). Possibilities include:
 - *All cows when PCR group screening result is Positive*
 - *Purchased cows*

A copy of the test results will automatically be sent to your herd veterinarian.

Along with incorporating Best Management Practices, you should work closely with your veterinarian to determine a testing plan for your herd, and test results interpretation.



For more information on BVD milk testing, please call DHI at 1-800-549-4373.