CANWEST DHI
Profitable Dairy Management

The Catalyst

1-800-549-4373 CANWEST DHI www.canwestdhi.com

BVD test now available

Convenient new herd screening test will help manage BVD risk

Building on the success of the Johne's, Leukosis and Mastitis 3 tests, CanWest DHI is introducing a Bovine Viral Diarrhea (BVD) milk based testing service.

The DHI service is designed to identify Persistently Infected (PI) cows. These animals are infected for life and are shedding the BVD virus in the herd. PI cows are actually rare as they usually do not survive to become part of the breeding age heifers or adult milking herd, but the ones that do, will be a source of BVD virus in the herd and an important cause of infections and BVD related herd performance problems. The normal course of action is usually immediate culling.

By far, a good vaccination program combined with sound biosecurity measures are the best defense against BVD. However, early detection and elimination of PI animals also plays a role as vaccination alone won't fully protect the herd if PI animals are present.

Richard Cantin, Director of customer services for DHI comments that "adding this service to our testing options was a natural progression for us and makes a lot of sense. If we can add value to the samples that are already being collected, we will, and this new service does exactly that."

A key feature is that the test can be performed using the same milk samples currently collected by DHI. A herd screening option is available, where individual cow samples will be pooled in the DHI lab. The ability to screen a group of cows (up to 250 in a group) and, in the case of positive screening results, the ability to immediately test individual cows without having to do further sampling at the farm makes the service very convenient and cost effective.

Almost always, the recommended first step will be to screen the herd and if you get a positive result at the herd level, then do individual sample testing to identify the PI cow(s). The group screening test is based on sensitive PCR technology, while the cow test is an ELISA based antigen test which is affordable and reliable at the cow level.

It's usually recommended to screen the herd first, and if you get a positive PI result at the that level, then do individual samples.

Cantin concludes, "we think the convenience and the cost effectiveness of this herd screening service will make it highly popular. The ability to regularly screen the milking herd in a cost effective manner, with samples that are already collected makes this service a perfect fit for routine BVD surveillance."

Due to initial lab capacity limitations, the new BVD service will be made available gradually by regions and to all CanWest customers as soon as possible.

TESTING FOR BVD USING THE DHI MILK SAMPLE

What is BVD?

Bovine Viral Diarrhea (BVD) is an important viral infection in cattle, which has a negative impact on herd performance and can result in significant economic losses. Infections are categorized as either Transient Infections (TI), also called acute infections 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, such ongoing exposure and transient infections from animal to animal results in a decline in herd performance. Common signs of infection include respiratory problems, infertility and abortion and eventually lead to reduced milk production and early culling.

On the other hand, PI animals are permanently infected with BVD and will carry and shed the virus for their entire life. These animals cannot be cured and will be a source of BVD virus in your herd and the root cause of transient infections (TI) and herd performance problems. PI animals are generated by infection of unborn calves between 45 and 125 days of gestation, when the dam herself is exposed to the BVD virus. PI calves most often do not survive to become part of the breeding age heifers or adult milking herd, but when they do, become a main source of BVD exposure and infection for herd mates.

How do animals become infected?

PI animals shed a large amount of virus on a daily basis through bodily fluids, and therefore direct animal contact is the most common method of transmission and exposure, from PI animals to others. Breeding age PI heifers and adult PI cows shedding large amount of BVD virus are a main source of herd BVD related reproductive issues and therefore should be identified and eliminated from the herd.

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 the 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. Likewise, the possibility of introducing BVD infected animals in your herd should be evaluated when purchasing cattle. Having animals tested prior to entering your herd should be considered.

How do I test for PI animals?

Traditionally animals are identified through the testing of an ear notch sample. For identifying PI animals, the sooner the better, therefore testing should be done as newborns. However, with purchase animals and in other situations, that is not always possible.

Through continued advances in diagnostics, testing through routinely collected milk samples is now an option. The DHI BVD milk test is a convenient and cost effective way to identify persistently infected (PI) animals in the adult milking herd. The test identifies the presence of antigens of both type 1 and type 2 BVD.

For most herds, a group screening test is likely the best testing option. Positive results on a screening test can then be followed with individual cow testing. Routinely 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. New animals should be tested prior to entering the herd.

For a high value animal it is recommended that a positive cow test result be reconfirmed with a 2nd test, at least 14-21 days later. A second positive result, confirms with certainty a PI animal.

For PI identification, since infection occurs in uterus, animals need to be tested only once in their lifetime. Once a PI animal, always a PI, and vice versa.

Milk Testing Options from CanWest DHI

Producers have the ability to test:

1. Screening of the adult milking herd with the sensitive PCR test, through the pooling of DHI milk 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. Selected cows with the cost effective ELISA antigen test using the regular DHI sample. Animals only need to be tested once in their lifetime. Possible use of the cow test:
   - All cows when PCR group screening result is Positive
   - Purchased cows
   - Cows with reproductive failure
   - Newly freshened heifers

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

BVD diagnosis and control can be complex, and producers should work closely with their veterinarian to design BVD best management practices, determine a testing plan for their herd, test results interpretation and implementation of an action plan for test positive cows.

For BVD testing availability in your area, contact your local DHI field service representative, or call DHI at 1-800-549-4373