Bovine Newsletter
February 2012

_____

Using DHI Pathogen Tests Effectively

Recently, DHI has released a new test to their diagnostics available through their milk testing lab. You can reliably get results for **three mastitis pathogens** (*Staph auerus, Strep agalactiae* and *Mycobacterium bovis*), **Bovine Leukosis Virus**, **Johne's Disease** (*Mycobacterium paratuberculosis*) and now **Bovine Viral Diarrhea**.

The information from these tests can be used to confirm herd health status and to help identify individual problem animals.

Here are a few comments on all the tests as we see it at the KVC.

_____

Mastitis 3 – *Staph aureus*, *Strep aglactiae*, and *Mycobacterium bovis*

This test is designed for taking high somatic cell count individuals and determining if one of these three pathogens is present in the milk. This test is a PCR (polymerase chain reaction) test that amplifies a small amount of DNA specific to these pathogens and gives you a 1-3+ ranking. If you have a high cell count cow with a strong positive result, she is very likely to be infected in the quarter with that pathogen.

Also, there is a beta-lactamase test accompanying this result which helps determine if the bacteria identified is or is not sensitive to treatment with normal intrammamary preparations.   However, the beta-lactamase test done at the University of Guelph after culturing milk from an infected quarter is a much more sensitive test for this characteristic of the pathogen. So, if you have a 3+ *Staph aureus* positive cow after doing the Mastitis 3 test she is likely infected with staph and you will need to have the discussion with your vet (or the cow!) to determine if she is worth treating. Outcome can be predicted based on age of cow, historical LS counts and stage of lactation.

While this test is great, a culture should also be considered on the cow or on the bulk tank.

Bovine Leukosis Virus and Johne's Disease

These ELISA tests are excellent screening tests. These tests are used to get an idea of what level of infection is present within a herd.

When looking to reduce Johne's disease, management changes are paramount in first addressing the reduction of transfer of infection. Individual positive animals should be culled if they are a high titre and treated suspiciously if any other non-negative result is present.

For Leukosis, this test is an excellent way to assess heard status when implementing a program to reduce transmission. This is primarily done through colostrum managment. High titre animals' colostrum is NOT used to feed heifer calves, and only negative animals are used to feed your next generation. Colostrum replacers can be used when there is a low supply of negative animals.

Bovine Viral Diarrhea

This is the newest test available for producers. It is also is a PCR test making is very sensitive for finding the virus and can be used on a bulk tank sample to determine if infection is present in the herd. It is also available in an ELISA form for individual animals if the herd screening test has identified a problem.

BVD is a virus that can cause severe economic losses on any cow farm resulting from abortions, immunosuppression and death losses. Vaccines available are very effective in reducing the severity of disease and are excellent at protecting pregnancies.

Where this test should be used is for new additions from unknown sources and unknown vaccine history. The sequence would be to test the bulk tank for BVD with the PCR test and if, and only if that is positive you would test individuals. If you are at risk of BVD (highest risk is bringing in new pregnant animals) you should be implementing a test program for all calves born. An ear notch sample would be taken in the first week of life and frozen in an airtight container until the next herd visit . The sample will then be tested for BVD. It is more likely that you will find this problem in the calf herd then the cow herd as animals exposed to BVD during pregnancy can deliver a positive calf but remain negative themselves.

 Please discuss the details of this virus and these tests with your herd vet next time out.