



Quality Watch

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New BVD Testing Options Help Prevention Planning

This month's Quality Watch features a guest article by Dr. Todd Byrem, Antel Bio, concerning BVD. Members can submit milk samples for BVD testing through their milk hauler to the Novi laboratory. However, a special form needs to be completed and must accompany the samples. Members can contact their membership representative for the form and sample submission instructions. The cost for BVD testing is \$40 and payment for testing will be deducted from members' milk checks. Samples are submitted to Antel Bio on a weekly basis. Antel Bio will send results direct to members.

Statistically speaking, the chances of having a BVD (bovine viral diarrhea virus) viral outbreak on your operation are low. But any producer that has faced the harsh reality of a BVD outbreak likely doesn't consider this any consolation. Firestorms of BVD-caused abortions, calf mortality and plummeting conception rates have a significant and direct economic impact. Add in the costs associated with secondary infections and a decreased replacement pool, and BVD can cause even well managed, profitable operations to re-think being in the cattle business.

"Not worried," you say, "after all I vaccinate every year." Indeed, vaccination is an essential element of control programs, but before you put all your trust in vaccination, consider these facts.

1. Like flu vaccines, they only protect against the strains present in current vaccine batches. Unfortunately, the number and variety of BVD virus strains are unknown, and viral mutation continues to produce new strains on an ongoing basis.

2. Vaccination is most effective in animals with healthy and active immune systems. Anything that hinders appropriate responses of the immune system, like BVD, will have a negative impact on the effectiveness of vaccines.

Unless a rigorous biosecurity program, including quarantining and testing new additions, is in place, it's not safe to assume you are adequately protected. The severity and duration of consequences depends on how quickly the breach is detected since exposure is nearly continuous in proximity to persistently infected (PI) animals. The first issue to address is: how great a risk does your herd face?

Determining risk status of your herd is key to developing appropriate management procedures to minimize the impact of a BVD outbreak. Begin by identifying where BVD may be able to breach your herd health barriers. Have you expanded or brought in recent, untested additions; is your vaccination program lacking, or even non-existent; do your cattle have opportunity to interact with untested cattle? Even in herds considered 'closed', risk is increased if heifers are raised off-sight, 4-H projects are housed on the farm or fence-lines are shared with neighbors. Keep in mind that BVD is caused by a virus, a tiny particle that can ride a sneeze just like the common cold, and a BVD PI sheds enough virus to transmit the disease with only hours, not days, of contact.

The following discussion will help you evaluate if BVD is a potential cause for problems in your calf and reproductive programs.

After determining your herd's risk of harboring BVD, you can use the testing schemes below to confirm or contradict your suspicions.

Suspecting BVD

Considering persistently infected PI calves rarely survive their first year, most have clinical signs of BVD that are quite noticeable. Infection with BVD affects the respiratory and immune systems, typically leaving calves sickly and susceptible to chronic respiratory disease. Fever, coughing and nasal discharge, common to many calf maladies are also indicative of BVD.

In addition to clinical symptoms, consider coincidental changes in management that are consistent with the introduction of BVD. Most BVD outbreaks occur from the introduction of untested animals during expansion, or maybe even a neighbor's expansion. Outbreaks

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of BVD are sometimes regional, reflecting the introduction of a new strain of virus in the local vicinity and the popularity of a single source of vaccine that fails to provide adequate protection. In general, a high frequency of cattle movement without particular attention to BVD places many producers at high risk.

Testing plans for high risk herds

In high risk herds, screening is critical to detect BVD before it turns into an outbreak. Screening for BVD is a two pronged approach; one for the milking herd and another for calves. Used properly, screening will eliminate BVD concerns during expansion and keep the herd free of PI animals that propagate BVD by maintaining a reservoir of virus as a source for future infections.

Screening the milking herd. Bulk tank testing at regular intervals can detect the introduction of a single PI cow in a herd of 250 cows; subgroups of 250 can be used to screen larger herds. Such screens are vital as PIs that survive to adulthood can look healthy, but shed the BVD virus continuously.

Finding the PI cow(s) after a positive bulk tank test requires individual animal testing, so it is imperative to keep an accurate record of which cows were represented in the bulk tank or group sample. In addition to individual blood samples or ear notches, individual animal testing can now be done on DHI milk samples to greatly reduce labor and cost of testing. As dry cows reenter the milking string, or with the addition of new replacements, bulk tank screening can be repeated to assure the continual absence of PI animals in the milking herd.

Dealing with a PI cow is simple, cull her. Dealing with the situation is more complicated. Where did she come from, how long has she been in the herd, how many of her herd mates are on the farm, and where are her daughters (PI dams always produce PI calves) are just a few of

the questions that should be considered when evaluating the herd's biosecurity program.

Screening calves

When BVD is suspected, a calf screening program should also be implemented. As part of a calf rearing program, ear notches can be aseptically taken from the tip of the ear with notching pliers and sent to the lab for analysis. A negative test result not only clears the calf of PI, but also clears her dam. By eliminating that pair from any future testing, screening the milking herd can focus only on untested cows in the future.

A positive test result on a calf should result in quarantine and a retest in two to three weeks to differentiate acute infection from PI since most animals fully recover from acute infection. Another positive result upon retest should seal the calf's fate and indicate her dam on the suspect list for subsequent testing, either by ear notch or blood sample, or on her milk sample on the next DHI test date.

Screening calves and bulk tanks should continue until you are

confident the risk of BVD has been minimized. Prevent reintroduction and potential spread of BVD into low risk herds by testing new additions, limiting cattle movement and maintaining a proper vaccination program.

Summary

It's a small world when it comes to BVD. Like the common cold, new strains of BVD are continually evolving, passing from cow to cow and region to region. Complete isolation is improbable. Expansions, heifer growers, cattle shows and neighbors are all sources of new BVD infections. When new strains get past your first line of defense (vaccination), it is critical to find and remove PI animals from the herd.

Don't leave your herd's health to chance. Assess your risk and implement a screening program using the newly available, more efficient than ever, diagnostic tools to keep losses from BVD to a minimum.

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