

When BVD finds your dairy herd

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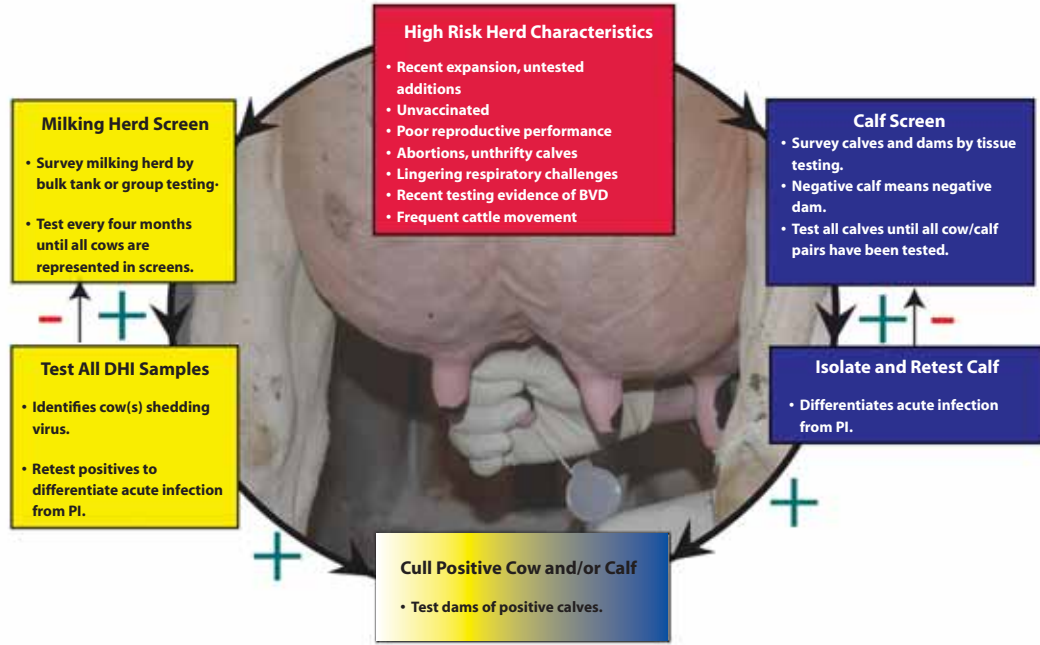
Don't discount Bovine Viral Diarrhea (BVD) as a cause for unthrifty calves and poor reproductive performance just because you vaccinate. Vaccination programs are regularly challenged by constant evolution of the virus and exposure to new strains from sources outside your control.

Rather than assuming the absence of BVD, consider the many potential breaches in biosecurity, even in a traditionally closed herd. Heifers raised off-sight? Have 4-H projects? BVD is caused by a virus, a tiny particle that can ride a sneeze just like the common cold.

This article will help you evaluate BVD as a 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

When addressing BVD, it's important to first consider if your herd is at low or high risk for harboring the virus. The accompanying flow chart contains observations common to high risk herds. Considering persistently infected (PI) calves rarely survive their first year, the clinical signs of BVD are quite noticeable. Infection with BVD affects the respiratory and immune systems, 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 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, 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 (see chart); 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.

Screen 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 PI cows can look healthy, but shed the BVD virus continuously.

Finding the PI cow(s) after a positive bulk tank test used to be expensive and time consuming. Now, it can be done on DHI milk samples, greatly reducing labor and testing costs. 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.

Screen calves

When BVD is suspected, a calf screening program should also be implemented.

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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 individual 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 your 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. ★

Water is key to preventing heat stress

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We all know the effects of heat stress: reduced DMI, reduced milk production, decreased reproductive performance and the list goes on and on. How do you know your cows are heat stressed?

- Rectal temperatures will be above 102.5° F;
- respiratory rates increase to 80 breaths per minute (from 50 - 60)
- and milk production and DMI decreases at least 10 percent.

Preparations for relieving summer heat stress should have been initiated in March, but there are many things you can do now to help remedy the situation.

Water is the number one limiting factor on dairies. You need to provide plenty of fresh, cool water. Cows require three to four linear inches of space at the water trough to prevent boss cows from restricting access to other cows. In the summer, water intake will increase from 30 gallons/cow/day to 50-60 gallons/cow/day. Water should also be available to cows immediately after they exit the parlor. The process of milking causes cows to be thirsty and you need to take advantage of that to maximize water intake.

One low cost way to increase the water space on your farm is to install

PVC pipe along fence lines and lanes. To do this you will need a large diameter PVC pipe with the top third cut off along the horizontal access. Cap the ends, add a float and you have a durable watering system that was easy and cheap to install. To make it easy to maintain, add a handle and attach the pipe in such a way that you can easily tilt it to dump the water and debris. Be sure you have a water line that is large enough to maintain at least 50 percent water volume during the highest time of water demand.

Fans are another area to consider when trying to alleviate heat stress. Do you clean your fans? Most people don't think of it, but dirt on fan guards can reduce airflow by as much as 40 percent. How about placement? Thirty-six inch fans need to be placed every 30 feet and 48 inch fans every 40 feet. By doing this, you eliminate dead space under the fan next in line. Fans should be placed at a 30-degree angle for optimum cow contact. A good way to check if your fans are working properly and placed correctly is to measure wind speed. If you are standing directly under a fan in a line of fans, wind speed at chest level should measure at least 5 mph. If that is not occurring you either should clean

the fans, check their placement or check the air flow rating (cubic feet per minute, the fan may not mechanically be able to move enough air to do what you need).

When targeting areas for cow cooling, the holding area should be considered first. Limit the amount of time spent in the holding pen, especially in the summer time, to no more than an hour and a half. In a one group herd, try holding back half of the herd at the feed bunk or in the freestalls where hopefully heat stress is less. Ideally, you should have fans or a sprinkler system in the holding area to help reduce heat stress.

If you can't put a sprinkler system in the holding area, try adding a soaking station as the cows exit the parlor. To do this you need two showerheads aimed at a 45-degree angle opposite each other and something to turn the system on and off such as an electronic eye or wand system. This soaks the cows and allows for evaporative cooling.

With the volatility of milk prices, we need to do everything possible to maintain production. These are just a few ideas that can be done now to minimize your loss of milk production before the summer heat becomes worse. ★