Planned BVD Control in Beef Herds

CATTLE LEARNING CENTER

Created by the NCBA BVD Working Group - Cattle Health and Well Being Committee

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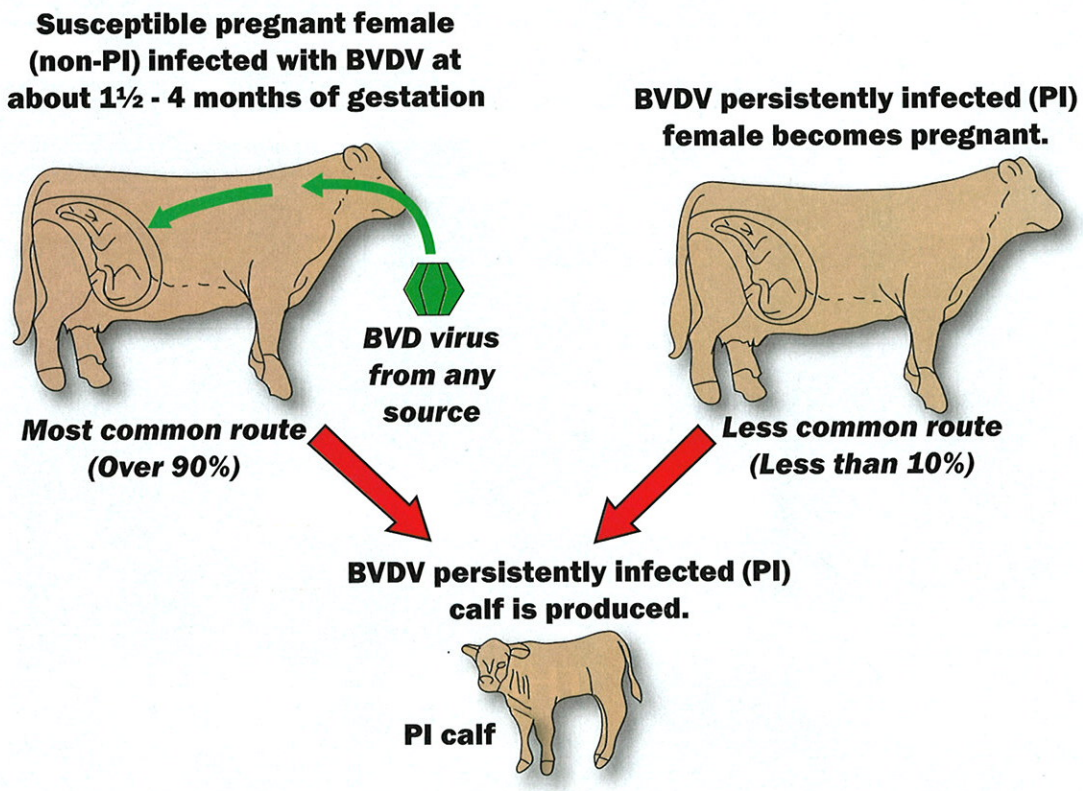
Bovine viral diarrhea virus (BVDV) can be a serious problem for cow-calf herds where it can cause decreased pregnancy percentages, increased abortions and weak calves, and contribute to other disease problems and production losses. BVD virus is most often spread by persistently infected (PI) carrier cattle, most commonly persistently infected calves.

Four components of a herd BVD control plan are:

1) Determine if BVD virus is currently circulating in the herd (surveillance/monitoring)
2) Control and eliminate BVDV persistently infected animals in positive herds (biocontainment)
3) Prevent BVD persistently infected animals in negative herds (biosecurity)
4) Measure progress/success (surveillance/monitoring)

Producers should work with their veterinarian to develop a BVD control plan that is appropriate for his/her individual operation. The first step usually involves determining if BVD is currently a problem. The herd veterinarian will use a combination of laboratory tests, an evaluation of current pregnancy percentages and death loss, and an evaluation of current vaccination protocols and replacement animal management to classify a herd as either high risk or low risk for the presence of BVDV. If BVDV is circulating in a herd, persistently infected animals must be found and removed before the next breeding season so that heifers and cows are not exposed to the virus during breeding and pregnancy.



If BVDV is not currently circulating in a herd, actions to prevent its introduction should be followed. Cattle being added to the breeding herd, whether raised or purchased heifers, raised or purchased bulls or pregnant or open cows, should be tested for persistently infected status and isolated from the breeding herd until the test results are available. Purchased pregnant animals can be PI-negative themselves and still be carrying a persistently infected fetus that will expose the resident herd once born.

Fence line contact with cattle at high risk for circulating BVDV, such as stocker cattle and cow herds without a BVD control plan, should be avoided, especially during early- to mid-pregnancy. Therefore, any animal carrying a fetus that was conceived off the premises should be isolated from the breeding herd until the calf is born and tested for persistently infected status. A well-designed vaccination program will provide a degree of protection against infection and the creation of persistently infected fetuses if pregnant cattle are exposed to BVDV.

Herd owners need to monitor the success of their plans to prevent the introduction of BVDV. Necropsy examination with submission of tissue samples to a diagnostic laboratory of dead calves is an excellent method to monitor for BVDV as well as other disease-causing agents. Work with your veterinarian to design monitoring plans that will be most effective in your herd.

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#624 BVD PI non-symptomatic heifer

NCBA BVD Control Working Group

The NCBA BVD Working Group is associated with the NCBA Cattle Health and Well Being Committee. Its members include producers, veterinary practitioners and veterinarians from diagnostic laboratories, extension and clinical positions, research and industry. It is working with the BVD Control Committee from the Academy of Veterinary Consultants and the American Association of Bovine Practitioners.

The Working Group is focused on implementation of effective, voluntary BVD control strategies in the cattle industry through various educational efforts.

BVD Control Definitions

Acute BVD infection - A BVD virus infection that usually causes mild illness (but is occasionally severe), shedding of the virus for up to 15 days after infection, and then clearing of the virus from the body. Acutely (transiently) infected cattle are considered to be far less efficient at transmitting the virus to susceptible animals than persistently infected cattle.

BVD Persistent infection (PI) - A BVD virus infection that lasts for the lifetime of the animal. A persistently infected animal sheds large numbers of virus particles in its nasal discharge, saliva, semen, urine, tears, milk, and to a lesser extent, feces. An animal can only become persistently infected if it is infected as a fetus. Once born, a non-infected animal cannot become a persistently infected animal. (See graphic) Introduction of persistently infected animals into herds is a major route for spread of BVD.

Transient infection - Same as acute infection.

Surveillance - Testing plan to determine if BVD virus is currently circulating in the herd. Indicates the progress or success of current biocontainment and biosecurity in a herd.

Biocontainment - Control and elimination of BVD persistently infected animals in infected or positive herds.

Biosecurity - Prevention of introduction of BVD persistently infected animals into noninfected or negative herds.

Monitoring - Same as surveillance.

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Thou Shalt:

I. Set goals for BVD control in your herd

II. Design a BVD control plan with your veterinarian

A. Determine if your herd is at high risk or low risk for having persistently infected cattle

B. Find and eliminate persistently infected BVD animals, if present

C. Prevent persistently infected animals from entering your herd

1. **Test** all herd additions for persistently infected status
   a. Test all raised or purchased heifers before they enter a replacement pool
   b. Test all bulls before they contact the resident herd
   c. Purchased pregnant animals (even persistently infected test-negative females) should be isolated from the resident herd until the calves can be tested for persistently infected status
2. **Isolate** animals returning from exhibitions or other events for three illness-free weeks
3. **Avoid** fence-line contact between pregnant cattle in the resident herd and stocker cattle or cow herds of unknown BVD status
4. **Consider and prevent** other effective contacts that pose a BVD risk

D. Vaccinate to reduce risk of the birth of persistently infected calves and acute disease

1. Vaccinate all breeding heifers with two or more doses of modified live BVD vaccine at least 30 days prior to the start of the breeding season
2. Vaccinate all mature cows annually — preferably, prior to the start of the breeding season

E. Monitor for presence of BVD in the herd

1. Work with your veterinarian to choose a surveillance program that fits your operation and your individual risk factors
2. Necropsy and send appropriate samples, including samples to determine persistently infected status, from abortions, stillbirths, and calf deaths to a diagnostic laboratory

Thou Shalt Not:

I. **Sell** persistently infected animals except directly to slaughter (should be euthanized, slaughtered, or isolated and retained). BVDV is not a human health risk, but persistently infected cattle are a health risk to other cattle and are often in poor health themselves.

II. **Mix** purchased pregnant cows or heifers with the resident herd until they have calved and calves are persistently infected test-negative

III. **Buy** bred heifers unless they were persistently infected-negative and properly vaccinated before breeding (MLV vaccine)

IV. **Use** animals of unknown BVD status as embryo transfer recipient animals

V. **Rely** on vaccination alone for BVD control because vaccination cannot be assured to prevent all persistently infected calves when exposure occurs