



BVD (Bovine Viral Diarrhea) Virus Control and Eradication

Cow-Calf Production: Version 1.0

Key Facts

- Prevention of BVD must focus on preventing the creation of persistently infected (PI) calves by implementing a vaccination strategy to improve herd immunity and a biosecurity plan to prevent the exposure of the pregnant cowherd to PI cattle.
- Control of BVD in a herd with circulating BVD virus must focus on finding and removing PI cattle.

Background

- Persistently infected (PI) cattle are the major source for BVD infection and disease in cattle that come in contact with them. PI cattle became infected before they were born (before 125 days of gestation) and shed huge amounts of BVD virus throughout their lives.
- The common ways BVD is introduced into herds are through herd additions that are PI or contact with other PI cattle - including PI calves, yearlings, bulls, females, and fetuses carried by pregnant females.
- Any calf, replacement heifer, bull, or cow can become temporarily infected with BVD virus for a few days to weeks until their immune system can clear the virus. The disease is usually not fatal by itself, but BVD virus suppresses the immune system and may make infected cattle more susceptible to diseases such as pneumonia, scours, footrot, and others. The virus may also cause infertility and/or abortion in susceptible cows, heifers, and bulls.
- Testing for PI cattle is different than testing for many other animal diseases in that PI status stays the same throughout the animal's life. In other words, a non-PI animal will be negative its entire life and a PI animal will remain so its entire life. Because of this fact, PI testing is usually only done once. A test for PI status only needs to be repeated to confirm a positive or if evidence indicates a faulty test. As with all tests, a few false-positive and false-negative results can occur.
- Vaccination is a tool to manage BVD and persistent infection, but it cannot be relied upon to keep a herd free of PI cattle.

Designing Best Plans for BVD Control and Eradication Strategies

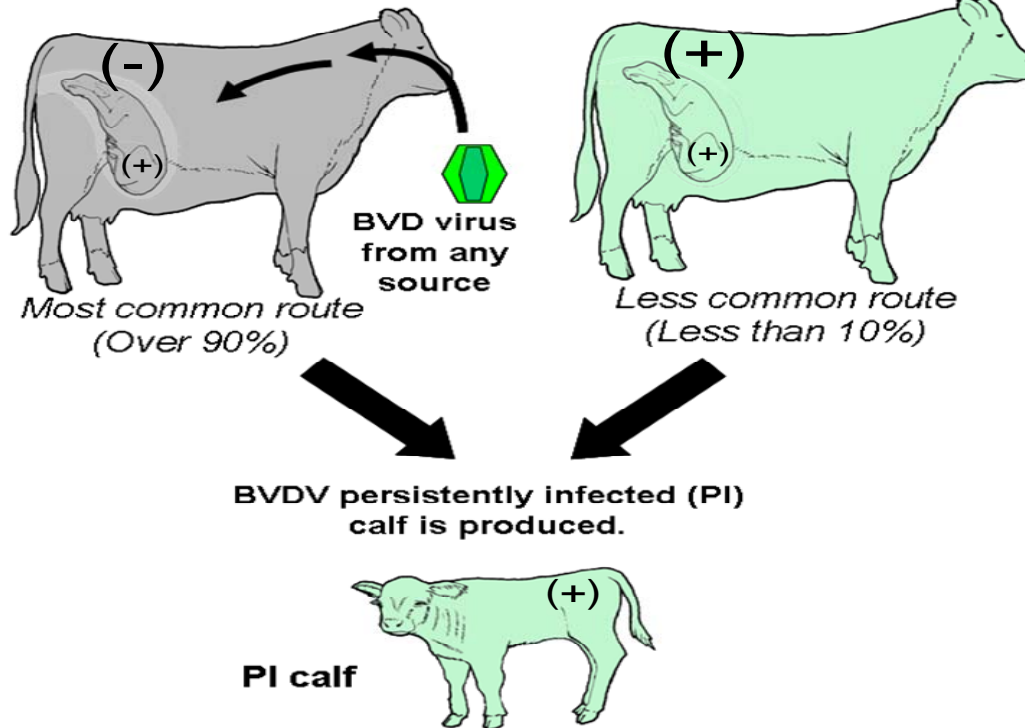
- Meet with your veterinarian to determine or review your BVD goals and current exposure risk.
- Introduce only PI-negative animals into the herd. Calves from purchased pregnant females must be test-negative before the pair is added to the resident herd.
- A number of tests for PI cattle are available; work with your veterinarian and diagnostic laboratory to determine the best testing strategy for your situation.
 - Prior to the start of the breeding season, test all calves and all non-pregnant females without calves (aborted, never confirmed pregnant, lost a calf for any reason) that have not been tested previously. Isolate pregnant females until they calve and their calves can be tested.
 - Some herds may require annual calf testing
 - Prior to the start of the breeding season, test all bulls and replacement females (home raised or purchased) that have not been tested previously for PI status.
 - Maintain documentation of test results.
- Work with your veterinarian to design a vaccination program that considers vaccine type and timing. This includes considerations of bull turn-out, pre-weaning, weaning, heifer pre-breeding, and mature cow vaccination to optimize fetal protection.
- Work with your veterinarian, neighbors, and replacement suppliers to identify and minimize risk of introducing BVDV to your operation.

What to do with a positive test result

- Immediately consult with your veterinarian to determine herd goals and appropriate measures.
- If any calf comes back as a suspected PI animal it may be euthanized immediately or held in isolation until a second confirmatory test is run. If a calf is confirmed as a PI, it should be euthanized immediately to eliminate the major source of BVD virus to the breeding herd.
- The mother of PI positive calves should be tested (there is a chance that the dam is also a PI).
- Cows with PI calves that are not PIs themselves may not need to be culled.
- Work with your veterinarian, neighbors, and replacement supplier to identify and minimize risk of introducing BVDV to your operation.

Susceptible pregnant female (non-PI) infected with BVDV at about 1½ - 4 months of gestation.

BVDV persistently infected (PI) female becomes pregnant.



"When producers were asked if they'd received any benefit from the program (Colorado BVD Control Program), every one of them said they had," Kennedy explains. "Some attributed the benefit to increased dollars for their calves and some to decreased illness in the herd."

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Patsy Houghton, Heartland Cattle Co., McCook, NE, also sees the value of BVD biosecurity and PI elimination. "The cost of even low PI prevalence in cow herds can be very, very high," she says. Houghton says ranchers should look at BVD PI control as an investment, not an expense. And, she's a firm believer in addressing the point of BVD infection — the mother cow. "If we can keep the BVD virus from reaching the fetus, we'll prevent any more BVD PIs from being produced," she says.

BEEF Magazine, March 1, 2006

BVD Myths

- **PI calves will be killed by MLV vaccination**

Fact – Controlled experiments have not been able to induce sickness or death in PI calves following MLV vaccination. However, case reports indicate that MLV vaccination can cause a PI animal to become sick or to die - though far less than 100% are negatively affected..

- **PI calves will be thin, have a rough haircoat, and be a poor-doer**

Fact – While many PI animals are unthrifty, reports have indicated up to 50% will appear normal and may enter the stocker operation in excellent condition. PI calves cannot be identified visually.

- **Calves are PI because their dam is PI**

Fact – Recent research has shown that 7% of PI calves' dams were PI; the other 93% of calves have dams with a normal immune response to BVDV and are not persistently infected.

- **The greatest cost associated with a PI calf is the death of that calf**

Fact – The reproductive loss associated with lower pregnancy proportions, more abortions, and higher calf mortality are the greatest economic costs of exposure to PI animals.

- **BVDV won't affect my cattle because I vaccinate**

Fact – The tremendous amount of virus secreted by a PI calf can overwhelm a level of immunity that is protective under less severe exposure.

Vaccination alone will not solve BVDV problems