



Bovine Viral Diarrhea Virus (BVD) of Cattle



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What is it?

BVD is a viral disease of cattle that can cause many problems in a herd. Although the name would make you think diarrhea is the major problem, in most herds infertility is the most common and costly because it can go undiagnosed. Other problems caused by BVD include pneumonia, abortions, still births, weak or deformed calves and immunosuppression.

BVD in Calves

- Calves with low immunity (non-vaccinated, vaccinated but stressed) are susceptible
- Pneumonia and/or diarrhea can occur
- Immunosuppression can lead to other disease problems
- BVD is part of the cause of Bovine Respiratory Disease Complex in feedlot calves

BVD in Cows

- Cows rarely become sick
- Exposure during breeding season
 - Infertility
 - Early embryonic death
- Exposure during first half of gestation
 - Abortion
 - Persistently infected calf
- Exposure during second half of gestation
 - Abortion
 - Stillborn calf
 - Weak calf
 - Deformed calf

Persistently Infected Calves (PIs)

- Fetus becomes infected with BVD during first half of gestation
- Calf is born
 - Can be healthy and grow normally
 - Can be sick and poor-doing
- PI calf sheds very high levels of virus in all bodily secretions and exposes cows and calves
- PI calf exposes cows to BVD and causes problems listed above
- More PI calves are created
 - Next year same problem
- Now the virus stays in a herd from year to year

Do you have it?

Since the problems listed previously can be caused by many things, producers should consult their veterinarian about other potential management factors and diseases. BVD testing may not be the first thing to look for or try to correct. To test for BVD, ear notches or other skin samples should be tested. Fortunately, newer testing methods pool several samples together to screen a herd for BVD, which can greatly reduce the cost associated with testing. If a pooled sample is positive, individual samples will be tested by the lab to find the infected animal(s). Testing should be done as soon as all calves are born and before breeding season starts. If you wait until breeding season has already started, you will have to test again next year. (New PIs may already be incubating in cows that will give birth the next year.)

Which animals should be tested?

- All calves
- All bulls
- All replacement heifers
- Breeding age cattle that do not have a calf being tested

A chute-side screening test is available for use in the feedlots to pick up potential PI calves on arrival. Those calves testing positive are isolated until confirmatory tests are done. This test may eventually be available for on-farm screening and testing of herds.

How did you get it?

Ways BVD can enter a herd:

- New purchases that are not quarantined or tested coming in
 - Sale barn
 - Private treaty
- Any animal on the farm temporarily
 - Borrowed bulls
 - Neighbors bull or cows in your pastures
 - Your cattle escaping to another herd and returning home and not quarantined
- Show animals not quarantined when returning home
- Purchase of pregnant females
 - Heifer/cow can test negative, look perfectly healthy but have a calf in utero that is persistently infected

How do you get rid of it?

If pooled samples are positive:

- Individual tests on all animals to find the PIs (lab will already have samples)
- If calf is positive, test dam (will need to take this new sample)
- Cull all positive animals

How do you keep it out?

Producers should not go through the time and expense of testing to eliminate this disease if they are not going to take measures to keep it out. Several measures are required to keep BVD from entering or re-entering a herd.

Biosecurity

- All purchased animals should be tested for PI status and quarantined to give time for acute infections to clear
- Any animal leaving the farm (shows, leased bulls, etc.) should be quarantined for 30 days before re-entering the herd
- Purchased pregnant animals should not only be tested themselves for PI status, but their calves should be tested at birth to make sure they are not a PI.

Vaccinate

Modified-live vaccines (MLV) for BVD are superior in protection, especially when it comes to protecting against fetal infection and future PI cases (fetal protection means less chance of PI next year). The risks of giving MLV vaccines are: 1) the chance of causing abortion if given to a pregnant cow or to a calf or replacement heifer exposed to a pregnant cow; 2) possible interference with conception if given within 30 days of breeding. Some products are now labeled as safe for pregnant animals or those in contact with pregnant animals as long as the pregnant animal has been vaccinated once with the product. Thus, in herds with a confined breeding season, an MLV vaccine program can be started as soon as all cows have calved and 30 days prior to breeding. After that, yearly boosters can be given any time of the year. Herds that have bulls out most or all of the year may have a hard time instituting a MLV vaccination program. If the herd is low risk (not buying cattle, moving cattle on and off the farm) and it doesn't have infertility/reproductive problems, a killed product may be sufficient. In general, it's best to have both Type I and Type II BVD cytopathic strains in a vaccine.

A common myth is that vaccination can eliminate BVD. Vaccines will not eliminate BVD; only lessen the number and severity of problems. Good vaccination programs are very important because they prevent wrecks such as abortion storms, diarrhea and pneumonia outbreaks, but they will not eliminate all the reproductive losses or totally prevent PIs. They only decrease the likelihood of these occurring.

Summary

BVD is a disease that can cause subtle, hard-to-recognize signs but can be very costly because it usually affects reproductive efficiency. However, there are many causes of reproductive losses, the most common being poor nutrition. So contact your local extension agent or veterinarian if you are concerned about this disease or any other herd health problems.

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