

Is Your Herd BVD Free?

by Barb Baylor Anderson

If you haven't been affected by bovine viral diarrhea (BVD) or paid much attention to it, you may want to give the disease some consideration. Kansas State University (K-State) livestock experts estimate between 70% and 90% of all cattle may be seropositive for BVD, which means a high risk of BVD exists for nearly every herd.

"We are hearing more about BVD because testing for the disease has gotten better and much easier," says Bob Larson, University of Missouri veterinarian. "Two types of problems are caused by BVD virus — (1) respiratory disease problems in feeder cattle and (2) abortion, pregnancy loss and early calf mortality with the cow herd."



BVD is one of the most significant viral infections of cattle, emphasizes K-State veterinarian Jerry Stokka. Symptoms range from fever, depression, runny nose and eyes to diarrhea and respiratory death. Cow-calf producers often will witness lower conception rates and smaller, weaker calves due to infection.

"BVD can end in complete recovery or in death," Stokka explains. "In utero infections can result in abortion; persistently infected (PI) animals; congenital defects; or normal, immune calves, depending on the stage of gestation the cow is in and her immune status when she is infected."

Generally, a cow infected at 60-120 days of gestation has a PI calf because the calf's immune system is not capable of responding properly to BVD, and the virus multiplies.

"Their bodies provide no defense to the virus, and it invades every tissue of these animals," Larson says. "Once born, PI calves secrete the virus and literally become factories of the disease. If we can find ways to mine these animals out of herds, then we could prevent most of the problems we see from BVD."

Testing

New testing procedures are expected to help producers identify and eradicate BVD in herds. Larson says PCR (polymerase chain reaction) probes can identify BVD in batch blood samples, although the test can yield false positives.

Another testing option is a new skin sample test, which can be performed by using an ear notcher to obtain a skin notch. The notch is sent to the lab for analysis and yields few false negatives or false positives.

"Producers should set up herd-specific protocols to screen for BVD," advises Allen Roussel, Texas A&M University veterinarian. "For example, BVD in cow-calf herds can be screened by pooling blood samples of 25 to 50 cows and running one test. If the test is positive, additional screenings can be done on smaller groups of animals until the BVD is found. If the initial screening test is negative, the herd is most likely BVD-free."

Prevention is key

Producers also can take steps to prevent BVD problems in purchased calves or feeder cattle, although Larson says BVD infections are less common in those animals because most do not live long enough to make it to that stage.

"About half of PI cattle die before they reach feedlot age, and we do not know yet what impact those that live have on the feedlot," Larson confirms. "We do know that when you have BVD in feedlot cattle or weaned calves, it means respiratory problems. BVD damages the respiratory tract, bacteria take over, and pneumonia is the result."

Larson and others encourage producers to be proactive in preventing

BVD biosecurity

Preparing to avoid potential problems with bovine viral diarrhea (BVD) should begin well before new animals are introduced into herds or lots.

Believing eradication is possible, Mel Pence of the University of Georgia Tifton Veterinary Diagnostic and Investigational Laboratory has created a plan for operators to follow to prevent the introduction of BVD and other diseases into herds. Pence and Gavin Meerdink, a veterinarian with the University of Illinois College of Veterinary Medicine, suggest the following components be included in the plan.

- ▶ Incoming cattle need to be isolated for at least two months following arrival or return from commingling at shows or similar events.
- ▶ The herd of origin needs to have a biosecurity plan as good or better than the purchaser's. The veterinarian and owner of the herd of origin should verify there's no evidence of Johne's disease, bovine leukosis virus (BLV), BVD or other infectious diseases in the herd.
- ▶ Incoming cattle should be isolated, with no fenceline contact or runoff going to the current herd.
- ▶ All incoming cattle should be tested on arrival for persistently infected (PI) BVD animals, bovine leukosis, Johne's disease, anaplasmosis and leptospirosis (lepto). A retest after 30 days is advisable.
- ▶ All incoming cattle should remain in isolation a minimum of 60 days and until all test results are received.
- ▶ Incoming cattle should be tested for Johne's disease every six months.
- ▶ Incoming cattle should receive an injection of oxytetracycline at the time of entry to help clear chronic lepto carriers.
- ▶ Three days after entry into isolation, all incoming cattle should receive vaccinations for lepto (5-way) and vibriosis, infectious bovine rhinotracheitis (IBR), bovine viral diarrhea (BVD), parainfluenza-3 virus (PI₃) and bovine respiratory syncytial virus (BRSV). Vaccines should be repeated two to four weeks later.
- ▶ Incoming cattle should be treated for internal and external parasites at entry.
- ▶ Incoming cattle should not be introduced into the herd just prior to or during calving.
- ▶ Only semen certified by Certified Semen Services Inc. (see "Resource Edition" in this issue) should be used for artificial insemination (AI).
- ▶ Colostrum from outside sources should not be used. It could be a source of BVD, Johne's disease or other pathogens.
- ▶ Personnel, vehicles and equipment — including chutes, syringes, tube feeders and others — should not be used on any other farm unless properly disinfected.

"Since all operations are different and have different risk factors, producers should always consult with a veterinarian for the biosecurity procedures that will fit best with the operation," Meerdink adds.

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BVD problems. Research has confirmed that BVD rapidly loses infectiousness outside the host and is susceptible to detergents, light, temperature changes and other environmental conditions. BVD mainly is transmitted by close contact with PI or acutely infected cattle. Needles, rectal sleeves, water troughs, feedbunks and other equipment aid the spread of the virus.

“Adding PI animals to a herd should be avoided as they are the primary method of introducing BVD into a herd,” Stokka says. “Replacement animals should be purchased only from herds with accurate records of disease prevention and vaccination, and all new animals should be isolated and tested for BVD before entering a herd.”

The need to vaccinate

Producers also should introduce a vaccine program. “You need to

vaccinate. Such programs are essential to decreasing losses to BVD,” Larson says. “The goal of any vaccination program in a cow-calf herd should be to prevent fetal infection.”

“Vaccination cost is about \$1 per head,” adds Chris Finney, a veterinarian at the Ainsworth Veterinary Clinic, Ainsworth, Neb. “That’s fairly economical insurance to reduce the chance of poor doers, light calves and death loss.”

Two types of vaccine are available, the modified-live virus (MLV) and the inactivated vaccine. Stokka notes the MLV vaccines offer more cross protection for animals, while cattle receiving inactivated vaccines must have a booster shot three to four weeks after the first shot.

“There is no vaccine program for all situations,” Stokka says. “Vaccination won’t clear PI cattle, but it will stop the spread of BVD in a herd. Producers should consult their veterinarian to tailor a program for their herd.”

