

TVMDL offers a range of tests to detect bovine viral diarrhea virus (BVDV). BVDV threatens the global cattle industry and negatively impacts producers in the form of decreased or lost productivity.

Despite vaccines and an array of diagnostic tests, this expensive disease continues to impact cattle producers. About 70 to 90% of all infections go undetected, leaving the industry open to more losses from BVDV.

The respiratory, immune, intestinal, blood and reproductive systems can all be affected by BVDV. Diagnosing the disease can require more than one test to determine the cause of a poor doing cow's symptoms.

Clinical Signs

A BVDV-infected animal can manifest a variety of clinical signs. These include fever, lethargy, loss of appetite, ocular and/or nasal discharge, oral lesions, diarrhea, decreased milk production, abortion, and weak calves that fail to thrive.

Often, there are no outward signs that the animal is infected with BVDV and many diseases present as co-infections with BVDV as the root cause:

- bovine herpesvirus 1 (IBR)
- parainfluenza virus 3
- bovine coronavirus
- pastuerella
- mycoplasma
- histophilus

Testing Guidance

Within the U.S. cattle population, there are three major subtypes of BVD: BVDV 1a, BVDV 1b, and BVDV 2, with the BVDV 1b subtype being the most predominant. The disease is primarily maintained and spread by persistently infected (PI) animals; therefore, most control programs are designed to identify PI animals.

Working with a veterinarian, producers can determine the appropriate test based on an animal's symptoms. Once it is determined that cattle are infected with BVDV, it is best to consult a veterinarian for recommended disease management options.

View the back of this handout to review TVMDL's BVDV test offerings.



Test Selection Guide

Condition	Sample Type	Methodology
Persistently Infected (PI)	Fresh ear notches packaged separately	Pooled rtPCR + Antigen Capture ELISA for all samples in a positive pool
	Fresh ear notch or serum (animal > 3 months old)	Antigen Capture ELISA
	Fresh ear notch, serum (animal > 3 months old), or EDTA blood	Virus Isolation (VI)
	Ear notch, semen, or EDTA blood	rtPCR
Mucosal Disease	EDTA blood, spleen, intestine, or Peyer's patches	VI and/or Histopathology
Abortion or Still Birth	Fetal lung, spleen, or abomasal contents	rtPCR or VI
Respiratory	Live: nasal and conjunctival Dacron swabs Dead: lung or spleen	rtPCR or VI
Enteric	Live: rectal swab or feces/ Dead: intestine, spleen, or mesenteric lymph nodes	rtPCR or VI
Serology Testing		
Live Animals	Paired serum samples collected ~14-21 days apart, 8-10 animals from a herd	Virus Neutralization (VN)
Still Birth or Abortion	Fetal blood, pericardial or pleural fluid	Antigen Capture ELISA and/or VN
	Dam: serum	Antigen Capture ELISA and/or VN

Visit tvmdl.tamu.edu to view current test prices.