

# BVDV

## Signs, Transmission and Control

Bovine viral diarrhea virus (BVDV) is the most costly viral disease in US cattle herds, with losses estimated at \$10–\$88 per head—or \$2 billion dollars per year.<sup>1</sup>



### What It Is

BVDV causes a complex viral disease that suppresses a cow's immune system, making it susceptible to a range of respiratory and reproductive illnesses.

By crossing the placenta in infected pregnant cows, the virus results in:

- Reproductive losses due to abortions
- Stillborn calves
- Calves that die early in life
- Seemingly healthy animals with poor milk production
- Persistently infected calves that survive and spread the disease to other animals

BVDV affects cattle of all ages, in every herd size, worldwide and in every U.S. state.

### Transient and Persistent Infection (PI)

An exposed cow can become transiently infected by close contact with an infected cow. A transient infection lasts several days to a few weeks until the cow's system fights off the virus. During this time, the animal is highly susceptible to other diseases.

A persistent infection is much more serious. A calf is born persistently infected (PI) if its mother becomes infected between days 30 and 120 of gestation. PI calves stay infected for life and can continually infect other animals.

Most PI calves die of mucosal disease within the first 18–24 months of life, but some live well into adulthood, appearing as healthy as the healthiest calf in the herd. A PI calf sheds 1,000 times more virus than an animal with a transient infection. PI animals are the main source of BVDV transmission. Testing is the only way to identify PI.

## Early Detection and Intervention

The large amount of virus shed by a PI animal makes it extremely difficult to get the virus under control or eliminate. BVDV control requires a combined program of vaccination, biosecurity and early testing specifically for PI animals. Testing is essential so that PI animals can be identified and removed before they spread BVDV infection. The IDEXX HerdChek® BVD Antigen Test Kit is the only USDA-licensed test for detecting BVDV infection. Consult your veterinarian to determine the most appropriate measures to take.

## Persistently Infected (PI) Animals Never Recover—So You Can Never Let Your Guard Down

Meet with your veterinarian to design a BVDV-PI strategy for your operation that includes vaccinations, testing, risk assessment and biosecurity.



## Maximum Protection Strategy

Prior to breeding season:

- Test all:
  - Calves (If calf is negative, dam is negative. No need to test dam.)
  - Cows of positive calves (If calf can't be identified back to the cow, consider testing all cows.)
  - Open cows
  - Bulls
  - New cattle introduced to the dairy
- To minimize risk, keep vulnerable cattle (especially pregnant cattle and those of uncertain testing status) away from fence-line contact with neighboring operations' untested cattle.
- Establish a quality vaccination program with your veterinarian.
- Annually test using the **Surveillance/Maintenance Strategy** and/or continue to test each calf crop (note: PI-tested calves may bring added value).

## Surveillance/Maintenance Strategy

- Test all:
  - Aborted fetuses
  - Calves that die
  - New cattle introduced to the dairy
  - Animals with increased somatic cell counts
  - Animals treated for bovine respiratory disease (BRD)
  - Animals that have mastitis or show signs of other illnesses
- If you detect a PI animal, implement the **Maximum Protection Strategy**.

<b>BVDV and Abortion: Impact on a Typical Dairy<sup>2</sup></b>	
Amount of dairy abortions caused by BVDV	2–7%
Cost of increased days open caused by early abortion	\$2 to \$5 per day
Loss when days open increases to 45 as a result of early abortion	\$90–\$225
Loss if 20% of a 200 cow herd abort	up to \$4500
Loss of potential replacement heifers following late-term abortions	\$1,000–\$1,500 per cow
Salvage loss from early culling of productive cows	\$500–\$700 per cow
Drop in herd's potential calf production due to increasing calving interval from 12 to 13 months	2–5%
Loss in average producing dairy herd due to calving intervals over 14 months	>10%

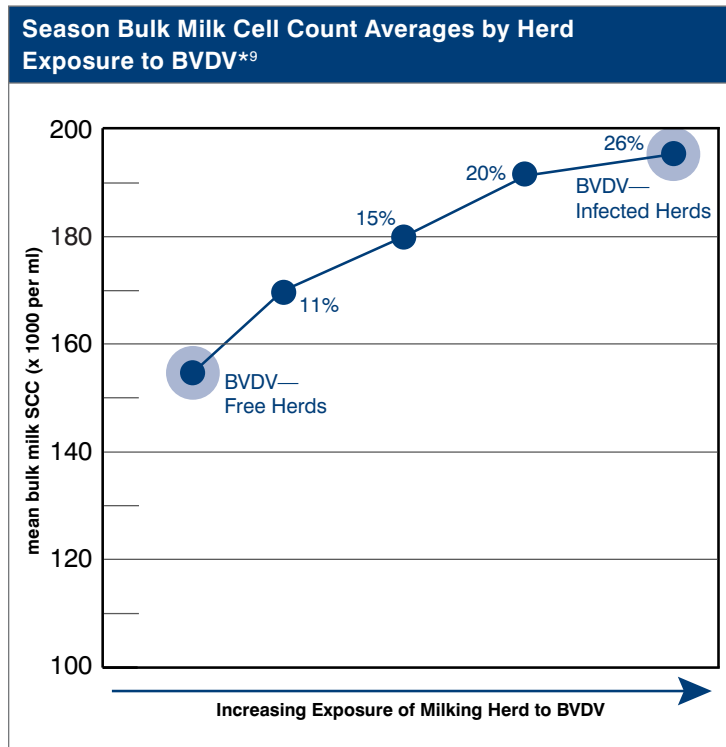
## Testing Can Save Both Cattle and Money

Testing all animals and removing PIs is the best way to decrease herd losses and reduce the financial impact of poor performance resulting from BVDV. In dairy herds, BVDV infection increases risk of late-return-to-service, abortions, still births and poor milk production.<sup>3</sup>



Overview of Economic Impact in Dairy Herds		
Periodical	Country	Reported Impact
<i>Preventative Veterinary Medicine</i> <sup>4</sup>	CA	\$31.07 per cow/year
<i>The Veterinary Record</i> <sup>5</sup>	U.K.	\$31.10–\$88.75 per cow/year
<i>Veterinary Microbiology</i> <sup>6</sup>	DK	\$20.00–\$57.00 per calving
<i>Hoard's Dairyman</i> <sup>7</sup>	U.S.	\$35.00–\$65.00 per calving
<i>Tijdschr Diergeneeskde</i> <sup>8</sup>	NL	\$81.71 per cow/year

## BVD Increases Number of Mastitis Cases and Raises Somatic Cell Counts (SCCs)



As this chart shows, increased incidence of BVDV corresponds to a rise in the number of cattle afflicted with secondary conditions—in this case, mastitis and elevated somatic cell count.

- 870 herds
- 26% higher bulk milk SCC than BVDV-free herds
- Also more mastitis cases

Testing with the IDEXX HerdChek<sup>®</sup> BVD Antigen Test Kit costs less than \$5 per test.

## Testing with the IDEXX HerdChek® BVD Antigen Test Kit costs less than \$5 per test

The only USDA-licensed test for detection of BVDV.

- **Convenient ear-notch sampling**  
Quick and easy chute-side sampling  
Limited training needed, with no blood sampling required
- **Rapid turnaround**  
Results within 24 hours, allowing rapid removal of PI animals
- **Accurate and reliable**  
Demonstrated accuracy, ensuring correct identification of PI animals
- **USDA-licensed**  
Standardized and validated to deliver results you can trust



### References

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Corporate Headquarters  
IDEXX Laboratories, Inc.  
One IDEXX Drive  
Westbrook, Maine 04092 USA  
Tel: 1-207-556-4890 or 1-800-548-9997  
Fax: 1-207-556-4826 or 1-800-328-5461

[idexx.com](http://idexx.com)

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