

IDEXX



Driving BVDV out of the herd

Eradication and testing tools from IDEXX

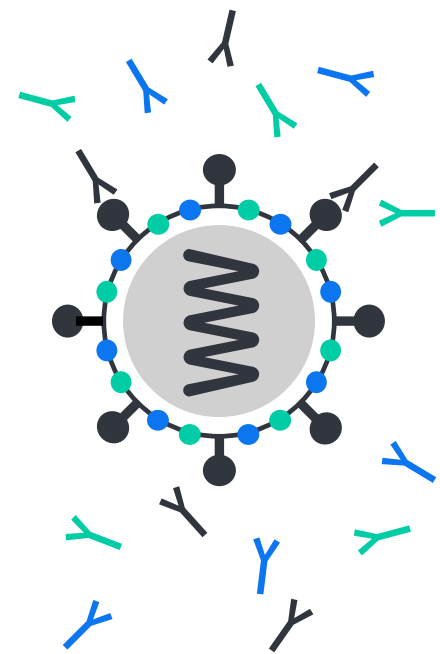
+ + + CREATING CLARITY

Stop BVDV from running wild.

Why BVDV is a problem.

Bovine viral diarrhoea virus (BVDV) causes low reproduction performances and suppresses the immune system. BVDV is one of the most costly bovine diseases for both dairy and beef producers, with losses of \$15–\$88 per head from reduced herd productivity, health, and reproductive efficiency.^{1–3}

Stopping BVDV requires detecting infected herds and removing the infection source: persistently infected (PI) animals.



How to determine if BVDV is present.

Screening circulation

Antibody test (detecting specific antibodies produced by animal against the virus)

- ▶ IDEXX BVDV Total Ab X3 Test

Target infected animals

Antigen tests (detecting Erns protein of BVDV)

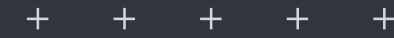
- ▶ IDEXX BVDV PI X2 Test
- ▶ SNAP® BVDV Ag Test

Ear notch for newborn calves OR blood testing after 90 days

PCR test (detecting BVDV genetic material)

- ▶ RealPCR™ BVDV RNA Mix

Ear notch, blood, and milk

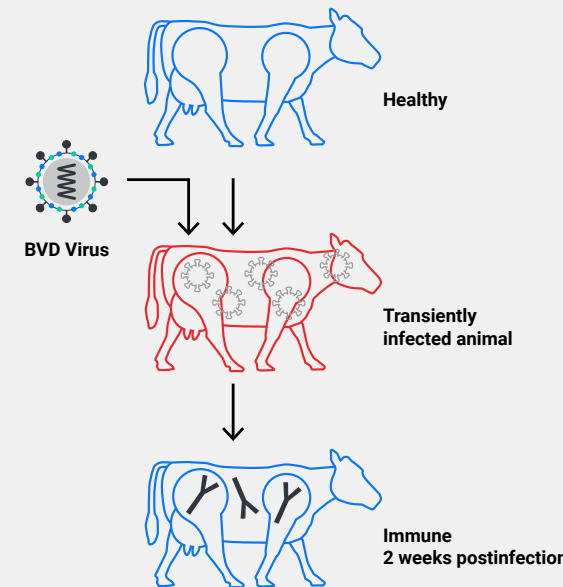


How animals become transiently infected.

An animal infected by BVDV after birth becomes **transiently infected** and produces detectable antibodies.

Results include the following:

- Less production, possible abortion.
- Around 2 weeks postinfection, the BVD virus is no longer detectable and only antibodies against BVDV remain.

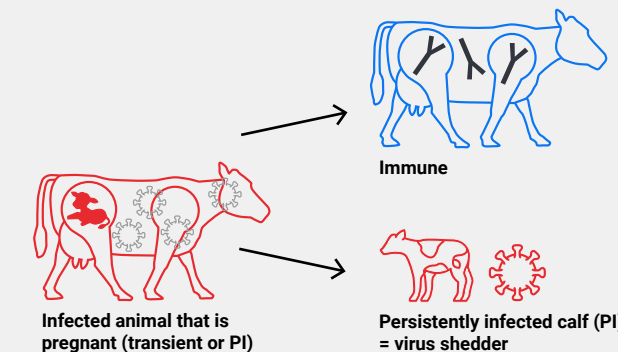


How animals become persistently infected (“PI”).

When infection occurs during gestation (30–120 days), the calf becomes **persistently infected (PI)**. The immune system does not recognize the virus as strange and does not produce antibodies.

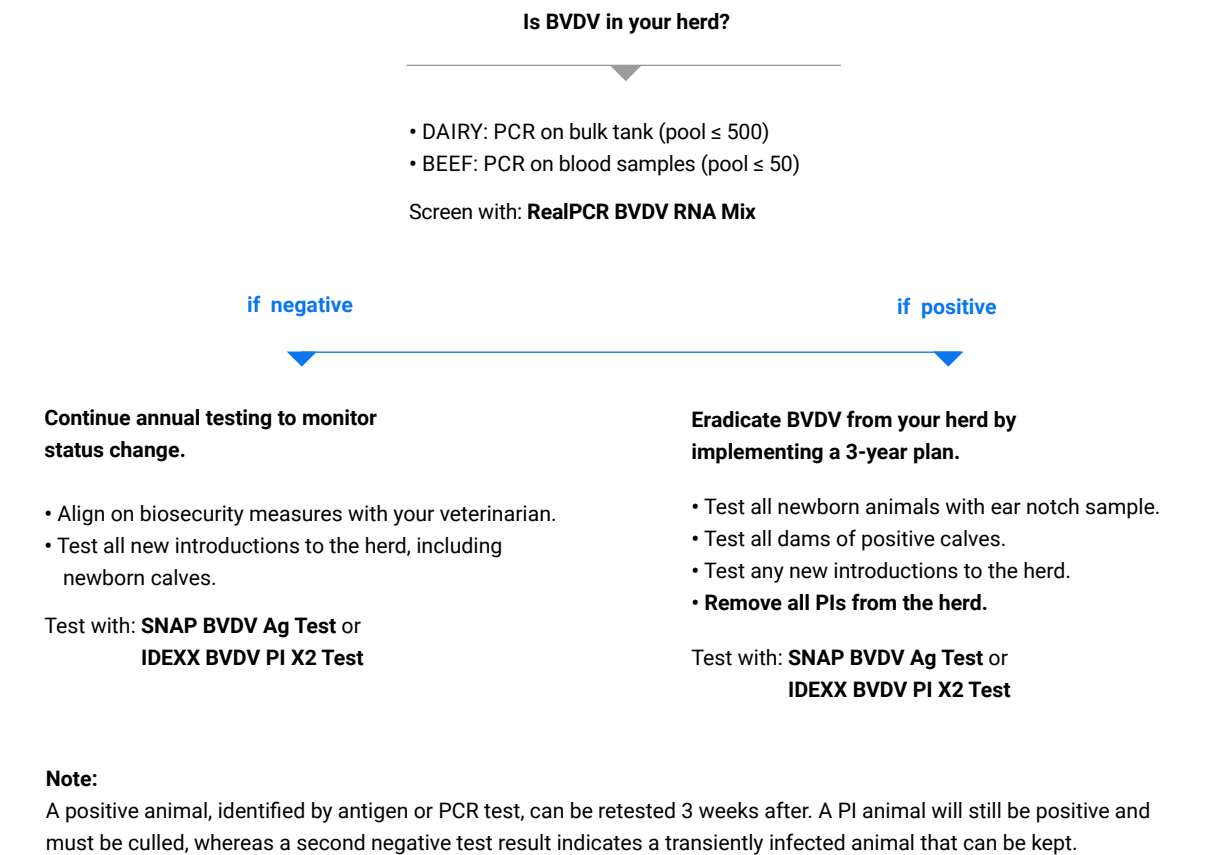
- PI animal can be lethargic but can also appear normal.
- PI cow produces PI calves.
- PI animal will shed BVDV for life, infecting other animals around them.
- PI animal is a continual source of infection.

The rapid identification and removal of PI animals from the herd is key to eradicate BVDV.



Determine your BVDV status and eradicate the disease from your herd.

Recommended control strategies.



References

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2. Chi J, VanLeeuwen JA, Weersink A, Keefe GP. Direct production losses and treatment costs from bovine viral diarrhoea virus, bovine leukosis virus, *Mycobacterium avium* subspecies *paratuberculosis*, and *Neospora caninum*. *Prev Vet Med*. 2002;55(2):137–153. doi:10.1016/s0167-5877(02)00094-6
3. Ridpath J. Why BVD is a tough problem. *Hoard's Dairyman*. 2002;147:697.
4. Fux RG. *Entwicklung und Prüfung von Verfahren zum Nachweis des Virus der Bovinen Virusdiarrhoe in getrockneten Ohrgehörproben mittels Antigen-ELISA und real time RT-PCR*. Dissertation. Ludwig-Maximilians-Universität München: Tierärztliche Fakultät; 2007. doi:10.5282/edoc.6641
5. Fux R, Wolf G. Transient elimination of circulating bovine viral diarrhoea virus by colostral antibodies in persistently infected calves: a pitfall for BVDV-eradication programs? *Vet Microbiol*. 2012;161(1–2):13–19. doi:10.1016/j.vetmic.2012.07.001

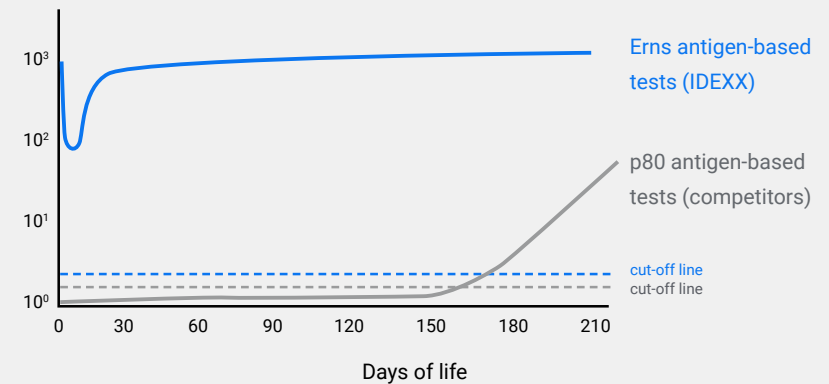
IDEXX BVDV antigen tests provide clarity you can bank on.

The IDEXX BVDV PI X2 Test and SNAP BVDV Ag Test target Erns antigen by a patented method.

- An Erns antigen-based test like these IDEXX antigen tests can be used on ear notch samples at birth, whereas you need to wait several months with a p80 antigen-based test (antibodies from maternal colostrum hide p80 protein for several months after birth, giving false-negative results with p80 antigen-based tests, but not with an Erns antigen-based test).^{4,5}
- p80 antigen-based tests are not approved by national reference laboratories in Germany and France. Only Erns antigen-based tests are approved by national agencies leading BVDV eradication plans.
- **Trusted worldwide:** 85 million samples have been tested in more than 60 countries using IDEXX BVDV Erns antigen-based solutions since their launches.

More infected animals are found with Erns antigen-based tests than p80 antigen-based tests

(graph adapted from Fux and Wolf, 2012)⁵



IDEXX offers multiple options to determine if BVDV is present.



IDEXX BVDV PI X2 Test
Lab test detects Erns antigen in serum or ear notch samples.



SNAP® BVDV Ag Test
On-farm (or lab) test detects Erns antigen in serum or ear notch samples.



RealPCR BVDV RNA Mix
PCR mix signals the presence of BVDV through genetic material in ear notch, blood (EDTA), serum, plasma, milk, or tissue samples.



IDEXX BVDV Total Ab X3 Test
BVDV antibody test detects antibodies produced by animal against the virus. This ELISA lab test utilizes milk and serum samples.



For more information,
visit idexx.com/testbvdv
or contact your
IDEXX representative.

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