Wyoming State Veterinary Laboratory

1174 Snowy Range Rd
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Phone: 307-766-9925
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Title Testing Methods to Eliminate BVDV from Cattle Herds

General Submission Information

Each ear notch must be received dry, in an individual 10mL, red-top tube labelled with the animal I.D. number. A WSVL accession form and paperwork with animal IDs listed must accompany submitted samples. Appropriate paperwork is **required** for proper processing of samples. Keep samples cool (in a cooler with ice packs is fine) while sampling and ship overnight to the WSVL or hold in the refrigerator and ship the next day on ice packs. Ear notchers work well for sampling. It is imperative that the sampling device is flamed between animals to prevent BVDV contamination from occurring between samples. Place ear notch in a 10mL, individual red-top tube. Ear notches received in incorrect tubes, Whirl-Pak bags, or Ziploc bags will be charged a $1.00 handling fee per ear notch.

Polymerase Chain Reaction (PCR)

PCR is a sensitive test designed to detect the presence of the BVDV genome in blood, body fluids (swabs), ear notches or tissue samples.

Body fluids/swabs, whole blood (purple top tube), tissues:
Cost: $45.00 per sample.
Turnaround time: 1-3 business days

Pooled Ear Notch PCR

We can pool up to 24 individual ear notches (no serum). **Each ear notch must be received dry, in an individual 10ml red-top tube. Each tube must be labelled and received within 72 hours of collection.** Ear notches must be kept in a refrigerator or on ice following collection and during overnight shipment. Repeated non-compliance with these requirements will result in each ear notch being tested by ELISA at the cost of $6.00 per sample.

Cost: $45.00 per pool.
Turnaround time: 1-3 business days
Most cost-effective for 7 or more ear notches.
Any ear notches received in PBS will be run by ELISA.

ELISA (Ear notch or Serum)

Cost: $6.00 per sample
Turnaround time: 1-3 business days
Most cost-effective for 6 or fewer ear notches.

Ear notches

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Please send ear notches in 10mL, red-top tubes either **dry or with an appropriate amount of Phosphate Buffer Saline (PBS).** The amount of ear notch soak buffer is related to the size of the ear notch. Refer to the table below for instructions regarding the amount of soak buffer.

Large ear notch (>1 cm on at least one side)	*2mL*
Small ear notch (>1 mm and < 1 cm on at least one side)	*250µL*

Animals of all ages, including calves less than three months of age, can be tested for persistent BVDV infection using the ear notch BVDV ELISA method.

Serum

Only serum samples from precolostral newborn calves or calves older than three months of age are suitable for testing with this ELISA kit. Maternal BVDV antibodies, which can be passed to newborn calves, can interfere with this ELISA and produce false-negative results. The level of maternal antibody decreases as the calf ages.

If you have questions regarding BVDV or BVDV testing procedures please call Dr. Will Laegreid (307-766-9929, wlaegrei@uwyo.edu) or the Virology section (307-766-9933), or visit the WSVL website http://www.uwyo.edu/wyovet/

Positive Samples

A BVDV positive result may be an acutely or persistently infected animal. Persistently infected animals are the main source of new infections in a herd. A definitive diagnosis that an animal is persistently infected can only be made after a second sample is taken, at least three weeks after the initial sample, and also tests BVDV-positive. The second sample can be serum or an ear notch for ELISA testing, or a whole blood sample (purple top tube) for PCR testing.

If the second test is negative, the animal was acutely infected and cleared the virus during the three week isolation period.

Here is a pair of yearling calves which one is the PI animal?