



307-766-9933 or 1-800-442-8331 (inside WY)

TESTING METHODS TO ELIMINATE BVDV FROM THE CATTLE HERD

PBS ELISA

Be certain all tubes are individually labeled with animal I.D. number. The samples must remain cool (in a cooler with ice packs is fine) while sampling is taking place and should be shipped overnight to the WSVL or held in the refrigerator and shipped the next day on ice packs. Ear notchers work well for sampling. It is imperative that the sampling device be flamed between animals to prevent BVDV contamination from occurring between samples. We can ship you tubes pre-filled with 2 ml of PBS at \$0.35 per tube on the same day you request them if you call before 3pm.

Cost: \$5.00 per sample. Turnaround time is 1-3 days. Most cost-effective for 6 or fewer ear notches.

Ear notch samples.

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.

The amount of ear notch soak buffer is related to the size of the ear notch. Please refer to Table 1 for instructions regarding the amount of soak buffer. Alternately, less than 10 fresh samples can be shipped without buffer in sealed containers to prevent drying (whirl pack or red top tube). Over 10 samples not in tubes with PBS will be charged a \$0.40 handling fee per tube. Do not treat the ear notch with a fixative (e.g., formalin).

Table 1. Ear notch buffer amounts

Large ear notch (≥ 1 cm on at least one side)	2 mL
Small ear notch (≥ 1 mm and < 1 cm on at least one side)	250 μ L

Serum Samples

Only serum samples from precolostral newborn calves or calves older than three months of age are suitable for testing in 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.

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, blood, tissues: \$35.00 per sample.

Turnaround time: ~2 days.

Ear notches: Can pool up to 24 individual ear notches (no serum).

Ear notches **must** be received **dry**, in individual **10ml** red-top tubes, and must be received within 72 hours of collection.

Ear notches must be kept in a refrigerator or on ice following collection and during **overnight** shipment.

\$35.00 per pool. Most cost-effective for more than 7 ear notches.

Turnaround time: ~2 days.

Any ear notches received in PBS or inappropriate tubes will be run by ELISA.

BVDV IMMUNOHISTOCHEMISTRY (IHC)

BVDV immunohistochemistry is available for use on animals of any age. A 1 x 1 cm or larger piece of skin from the edge of the ear should be collected in a red top tube containing 3 to 4 ml of 10% formalin.

Cost: \$30.00 per sample. Turnaround time: 1 – 4 weeks.

VIRUS ISOLATION (VI)

Virus isolation testing is available for animals of any age. Tissue samples (lung, liver, kidney, spleen, thymus, brain and/or mesenteric lymph nodes) should be sent postmortem. Blood (purple top tubes) should be submitted from animals that are still alive. Samples should be kept cool and sent to the laboratory on ice packs as soon as possible.

Cost: \$30.00 per sample. Turnaround time: 3 - 4 weeks.

If you have questions regarding BVDV or BVDV testing procedures please call Dr. Myrna Miller (307-766-9934, mmillier@uwyo.edu) or the Virology section (307-766-9933), or visit the WSVL website at <http://www.uwyo.edu/wyovet/>. These tests (PBS/Serum ELISA, IHC, virus isolation and PCR) are offered by the WSVL.

Positive Samples

A BVDV positive result may be an acutely or persistently infected animal. **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 is also BVDV-positive.** The second sample can be serum or ear notch ELISA, or PCR using a whole blood sample (purple top tube).

If the second test is negative, the animal was **acutely** infected and cleared the virus during the 3 week isolation period. **A persistently infected animals is the main source of new infections in a herd.**

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



(They are both persistently infected)

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