BVDV PI Testing at NDSU-VDL

We offer polymerase chain reaction (PCR) based and Immunohistochemical (IHC) based assays to identify animals infected with BVDV. Both methods are very sensitive and specific but do not reliably differentiate persistently infected (PI) animals from those acutely infected and thus we recommend retesting positive animals 3-4 weeks after initial testing to document persistent infections. Which method will be most cost effective depends on the prevalence of PI animals in the herd. In most instances, unless testing 6 or fewer animals or there is a high herd prevalence of PI animals, PCR testing will be the most cost effective method. We test pools of 15 ear notches by PCR, and then individually test samples within positive pools. For IHC we pool 6 samples on each slide. Please refer to the website or current fee schedule for price information. Samples are run twice weekly, on Monday and Thursday and turnaround time is typically 1-2 days depending on testing volume. Please contact the laboratory if you are planning on sending in a large number of notches.

**Collection procedure for PCR testing.** As this assay is quite sensitive care must be taken to avoid cross contamination of samples.

*Note: Ear notches must be free of dirt, residual disinfectant, feces, tattoo ink or BVD vaccine.*

1. Use an ear notching tool that yields a 1-2 cm square notch
2. Place each ear notch in its own dry (no formalin) individually labeled red top blood tube or similar container.
3. Disinfect the notching tool between each animal.
4. Rinse the notching tool in water after each disinfection. *Residual disinfectant on the notching tool may give false negative results, therefore thorough rinsing is required.*
5. Do not vaccinate or tattoo at the same time samples are taken.
6. Place samples on ice as soon as they are collected and keep them refrigerated or frozen until shipped. If the samples will not get to the lab the next day, freeze the samples and ship on ice. Samples may be kept in the freezer up to one month and shipped together.
7. Record animal identification numbers on the electronic herd submission form and label the tubes with numbers corresponding to the numbered request form.

8/14/14
8. Ship on ice packs.

**Collection procedure for IHC testing.** Cross contamination is less of a concern in IHC testing. Disinfecting the ear notch tool and rinsing in water after disinfection is not required. Please place the samples in individually labeled tubes containing sufficient formalin to cover the ear notch. *Do NOT freeze. Samples for IHC testing should be tested shortly after collection. Prolonged storage in formalin will yield false negative results.*

**Interpreting results:**

1. BVDV not detected or negative – means the animal is not persistently infected with BVDV.

2. Positive or detected – means the animal is either persistently infected or acutely infected with BVDV.

3. Suspect – means a very low level of virus was detected. This can occur during convalescence from acute infection or represent carryover of virus from an improperly disinfected and/or rinsed ear notching tool.

**Retesting of positive animals:** Although IHC typically only identifies persistently infected animals we recommend retesting positive or suspect animals at least 3 weeks later to document persistent infection. Retesting is particularly important with PCR testing as it readily identifies both persistently infected and acutely infected animals.

NDSU-VDL Shipping addresses:

**Post Office Mail Address:**
Veterinary Diagnostic Laboratory
NDSU Dept. 7691
PO Box 6050
Fargo, ND 58108-6050

**UPS or Fed Ex Address:**
Veterinary Diagnostic Laboratory
NDSU Van Es Hall
1523 Centennial Blvd.
Fargo, ND 58102

*Call the VDL at 701-231-8307 or 701-231-7527 if you have any questions.*