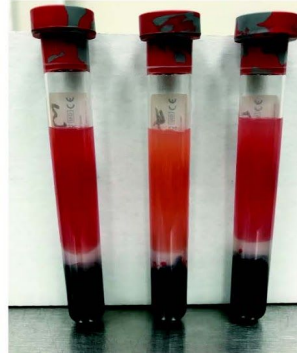
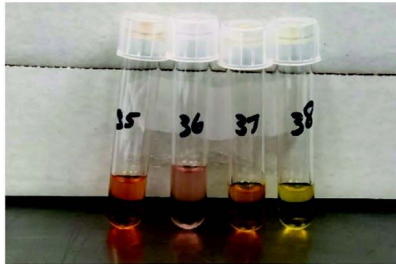


Best Practice Sample Submission

Serum



Tube #	Animal ID	Animal ID	Tube #	Animal ID	Sex	Breed
1	221		16			
2	267		25			
3	536		26			
4			27			
5			28			
6			29			
7			30			
8			31			
9			32			
10			33			
11			34			
12			35			
13			36			
14			37			
15			38			

Sample collection

- Submit blood in 5 ml serum separator tubes or serum in 5 ml plastic snap cap tube
 - To avoid additional processing fees, centrifuge serum prior to shipment
 - Ideal sample volume after centrifugation is between 1-4 mls - depending on how many tests are requested
- Check that the cap is securely closed
 - 5 ml snap cap tubes need to be double snapped
 - Serum separator caps should be firmly pressed into the tube (these caps should not be removed when collecting blood)
 - Remove sharps from the serum separator caps prior to the shipment
- Label tubes/wipes consecutively (ex: Tube #1-10, or #21-60).
- Record individual Animal IDs on the submission form next to the corresponding Tube #.
- Do not include Animal IDs on the tube label as this can cause confusion when sorting tubes. Following these labeling instructions will greatly expedite sample processing
- Do not fill sample tubes to the top. Overfilled tubes may expand during freezing or shipment, resulting in lost samples and cross-contamination of other samples in the shipment. Use two tubes if an additional sample is needed to complete multiple tests. Please make sure the duplicate tube is labeled as “duplicate sample” and has the same number as the first tube.
- Sample tubes and their shipping container should be clean on the outside (i.e. no fecal material, blood, dirt, etc.) Dirty sample containers compromise our ability to prevent

contamination of other samples and various components of the lab. Shipping companies may reject dirty/soiled boxes.

For PRRSV testing

- Submit at least 0.5 ml of serum. Submit an extra ml of serum if you anticipate PRRSV sequencing. Samples can be submitted in "red-top" tubes (with or without the gel-separator). 6 ml serum tubes are preferred. Please do not use larger tubes to submit serum samples.

For best results, samples should be centrifuged before sending to the lab. If this is not possible, the lab can spin down your samples for a charge.

For blood collected for serum

- Blood collected for serum should be allowed to clot at room temperature before refrigerating or centrifuging.
- Protect blood samples from direct sunlight, extreme heat, and freezing to prevent hemolysis and degradation of serum. Refrigerate when clotting is complete if centrifugation will be done hours later.
- Provide at least 0.5 ml of serum/test requested. Make sure there are no erythrocytes (hemolysis) in the serum because they may interfere with certain tests.
- Use permanent ink. Water soluble inks smear when moisture condenses on cool tubes.
- Note that serum separator tubes require centrifugation for a minimum of 2 minutes at 3,000 rpm.
- Without centrifuging, slightly more serum may be required to obtain serum free of red blood cells.
- Label tube sequentially, organize, and ship. See container recommendations and sample identification and shipping.

Submission Forms

- University of Minnesota Veterinary Diagnostic Lab charts should be used with the actual signature (if required for regulatory testing) of the veterinarian that drew the blood.
- If Brucellosis testing requires submission with either the Federal Brucellosis Form or copies in triplicate of the BAH Test Chart already prepared, include this paperwork with required tests requested.

- When testing for FAA and 4-H exhibitions, provide a separate test chart for each owner. If tubes from several farms are sent together in the same package, label the tubes with consecutive numbers to prevent confusing tubes between farms.
- For EIA submissions, only one horse should be listed per submission form (Form 10-11, Feb 2018).

Packing

- Label sample tubes with sequential numbers (1, 2, 3, etc.) to help us sort and organize the samples. Individual ID's can also be included on the tube or paperwork. Use permanent ink. Water soluble ink may smear when moisture condenses on cool tubes.
- Tube numbers should be easily distinguishable from animal ID numbers (underline, circle, or use different color ink for tube numbers). Be legible to avoid a zero looking like a six, a four looking like a nine, etc.
- If samples from several sites or farms are sent to the lab in the same package, label tubes so it is clear whose samples are whose. The preferred method is to label all tubes with different numbers, e.g., Farm A, #1-10; Farm B, #11-40.

Container recommendations

General Information

Tube Size Limits

- Diameter: minimum 12mm; maximum 16mm (prefer 12-13mm)
- Length (without stopper): minimum 75mm; maximum 100mm

Closure

- Must be “push-on” only and quickly removable with one hand.
- Please do not use screw capped tubes.
- Do not apply tape or parafilm on caps.

Tube Material

- Glass: must be silicone treated.
- Please do not use screw capped tubes.
- Plastic: either polystyrene or polypropylene.

Specific Recommendations

The following tubes are easy to open and do not leak. The examples below are listed in order of preference.

- Glass serum separator, 13X100mm (7ml)
(Corvac brand. These tubes are silicone treated and are packed in cardboard racks suitable for shipping. Available from: Midwest Vet Supply (800) 352-2831; Far-Vet Supply (800) 328-9483.)
- Polystyrene 12X75mm
(Falcon Brand #2054. These tubes are sterile and include caps. Available from: Curtin Matheson (612) 934-1835; VWR Scientific (800) 932-5000.)
- Polystyrene 12X75mm
(Tubes #5-3305-800, caps #5-3302-800. Available from: Helena Plastics (800) 227-1727.)
- Polystyrene 12X75mm
(Tubes #60818-361, plug cap #60819-003. Available from: VWR Scientific (800) 932-5000.)

Shipping

- Please send tubes in a box with dividers, organized in chart order. To prevent leakage, push down on plastic tubes so that the cap lip is not stuck on the divider top. **DO NOT SEND TUBES IN A BAG**; they may leak because the caps loosen, or break. It also takes the lab much longer to organize them for testing.
- Please do not tape tubes together for shipment. Pulling the tape off commonly removes ID's written on the submission tubes.
- Group samples for one case/owner in one bag if there is more than one case per container. Make sure bags and paperwork are properly identified. Clearly indicate pooling instructions on the paperwork. We will not pool more than 5 semen or serum samples per test. Also, if results are to be monitored on our website by others, write the "affiliation" code(s) on the paperwork. If you are unsure of the affiliation codes, please [contact the lab](#).
- Ship overnight. Samples should be shipped with frozen gel packs to maintain sample quality. Include enough packs to keep the samples cold, remembering that overnight shipments can be routed through warmer climates and may sit in hot storage areas.