



**Wisconsin Veterinary
Diagnostic Laboratory**
UNIVERSITY OF WISCONSIN-MADISON

Sample Collection Guidelines

Sample collection can vary depending on the type of test needed. The following includes general sample collection guidelines for most WVDL assays. If guidelines are more specific, that information may be found on the [Test and Fees](#) page.

Whole Blood/Serum/Plasma

- **Whole blood:** blood should be collected in a test tube with anticoagulant (EDTA), typically purple top tube.
- **Serum: blood** must be collected in test tubes with no additives (e.g. red top tubes or serum separator tubes).
 - Allow to clot at room temperature (15-30 minutes). Centrifuge and transfer serum to new non-additive tube
- **<OR>**
 - Allow to clot at room temperature (15-30 minutes) prior to refrigeration/shipment.
- **Plasma:** blood must be collected in tubes containing an anticoagulant.
 - Include anticoagulant information on submission if submitting harvested plasma.
- Label samples clearly with animal identification and/or unique identifiers.

Ear notch skin samples

- Detailed instructions on ear notch collection, including disinfection of collection equipment, can be found on the WVDL website: Use search function for “ear notch”.
- Submit fresh samples of ear tissue ~1 cm x 1 cm.
- Place individual ear notches in empty test tube containing no additive (e.g. red top).
- For large herd sampling, contact the WVDL for information on sampling in 24 well plates.

Feces

- A golf ball size amount is preferred, with no less than 5 grams needed to perform testing. Sheep/goats/camelids/cervids: 15 pellets minimum.
- Submit in a leak-proof container. Maintain at refrigerated temperatures post collection and during transport.
- If pooled testing is requested, submit individual samples and the lab will pool the samples upon arrival.

Fluids

- The majority of fluids should be collected aseptically for best diagnostic value.
- Fluid specimens must be placed in a leak-proof, preferably sterile, container/test tube.
- Fluids will be **rejected** if received as a syringe with a needle attached.
- A minimum 1 ml (1 cc) **urine** sample is preferred. Cystocentesis is the recommended method of collection.
- Maintain fluid samples at refrigerated temperatures post collection and during transport.

Swabs

- Bacterial Culture:
 - Feces, tissue, or fluid specimens are preferred for bacterial culture. If swabs are utilized, submit using bacterial transport systems. If anaerobic bacteria are suspected, use a bacterial transport system designed for obligate anaerobes. These are available for purchase at WVDL.
 - Dry swabs are not appropriate for bacterial culture and will be rejected.
 - Cotton tipped and/or wooden handled swabs are not ideal (may inhibit culture).
 - Maintain samples at refrigerated temperatures post collection and during transport.
- Molecular or Virus Isolation testing:
 - Swabs should be Dacron or polyester with plastic handle. Do not use cotton tipped and/or wooden handled swabs.
 - Swabs should be submitted in sterile tubes with a viral transport media, BHI, or approximately 1-2 ml of sterile saline.
 - Do not place the swab in charcoal, agar, or other unapproved molecular or viral transport media. Testing **cannot** be performed in tubes containing gel-like media.
 - Maintain at refrigerated temperatures post collection and during transport.
- Nasopharyngeal Swab guidance can be found on the WVDL website: Use search function “nasopharyngeal swabs”.

Semen/Embryo Wash Fluids

- Processed (Extended) Semen
 - Processed semen should be submitted in well-labeled straws and shipped overnight in liquid nitrogen tanks.
 - See individual assays for number of semen straws required for testing but generally:
 - Virus isolation: 4 x 250cc or 2 x 500cc straws
 - Molecular: 4 x 250cc or 2 x 500cc straws
 - Culture: 1 x 250cc or 1 x 500cc
 - Please utilize a semen tank map and place semen into numerically identified holders that correspond to the paperwork. Bundle semen straws for PCR/molecular testing separately from semen straws for virus isolation or culture testing. Separate semen tanks for each type of testing is ideal.
- Raw Semen/Embryo Wash Fluids: 0.5 - 1 ml of fluid, submitted in leak proof vials, shipped overnight on ice packs (bacterial culture) or in liquid nitrogen (virus isolation and PCR/molecular).
- Advanced scheduling is **REQUIRED** for culture submissions with >20 semen samples. Please email submissions@wvdl.wisc.edu at least one week prior to submission.
- Semen straws will not be pooled from different collection dates.

Milk

- Submit milk in leak proof containers inside a zip lock bag to contain potential spillage.
- Lids must be completely closed to prevent leakage and sample tubes should be no more than ½ full (milk will expand when frozen).
- Collect samples directly from teats. Bucket or milk meter samples risk carry over bacteria from previous cows.
- Make sure samples are cold or frozen until they are delivered to the lab to avoid post-collection bacterial overgrowth.
 - Prototheca culture milk should not be frozen.
- Milk sample collection guidelines can be found on the WVDL website: Use search function "Milk sample".

Tissue

- Fresh
 - Submit tissues in leak-proof containers. Double containment highly recommended.
 - Maintain at refrigerated temperatures post collection and during transport.
- Fixed
 - Submit tissues in a wide mouth container with a screw top lid. Double containment highly recommended.
 - **Ideal tissue submission (though not always feasible and/or appropriate):**
 - 9 parts formalin to 1 part tissue for proper fixation.
 - 1 cm, at thickest dimension, is best for fixation.
 - Place container inside 1 – 2 zip lock bags to contain spillage during shipment.
 - Add 1 part isopropyl alcohol to formalin during winter/freezing temperatures to prevent tissue freezing during shipment.
 - Fixed tissues are not suitable for culture.

Additional Sampling Guidelines available on our website under the Resources tab in "Documents and Guidelines".

Please contact the WVDL with any questions at 608-262-5432.