

COLLECTING SAMPLES FOR DNA TESTING IN SHEEP

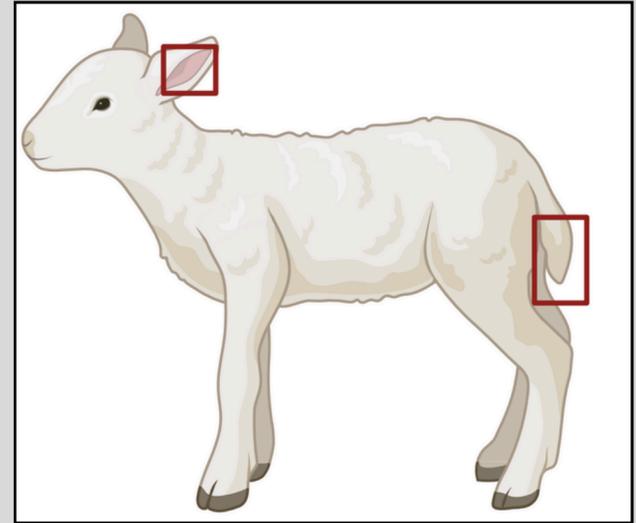


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There are three major sample collection methods for DNA testing in sheep: tissue, blood, and semen straws. Ease and flow of sampling, storage of materials before and after collection, and cost are all important considerations for determining which method to use.

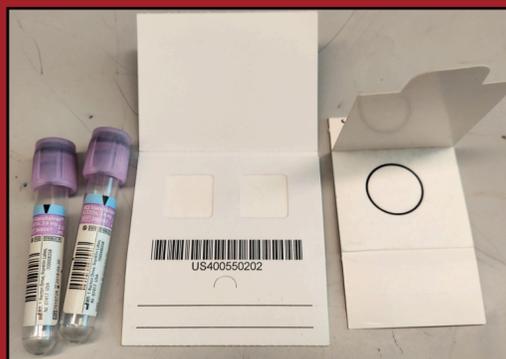
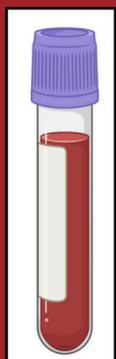
TISSUE SAMPLING UNITS (TSU), EAR NOTCHES, & TAILS

- Tissue sampling units, or TSUs, punch a small tissue sample from the ear into a tube with preservation solution during tagging.
- TSUs can be stored at room temperature in a cool, dry place before shipping at room temperature.
- Ear notches and tails can also be taken when tagging and docking, and placed in a container such as a plastic bag or tube before storing in the freezer until shipping.
- Notches and tails should be frozen and shipped on ice packs or dry ice.



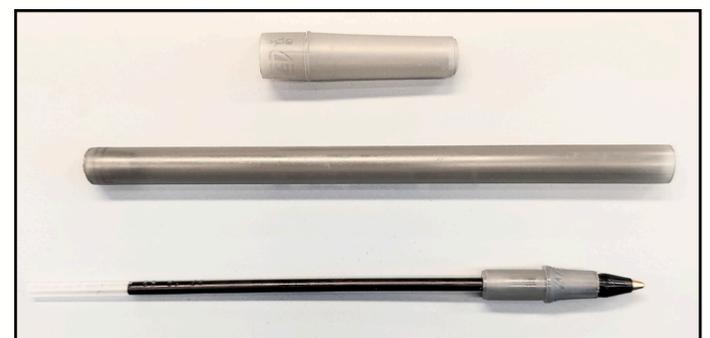
WHOLE BLOOD & BLOOD CARDS

- Blood can be collected into a purple top tube (containing EDTA to prevent clotting).
- Whole blood should be stored in the fridge and shipped within a few days on ice packs.
- Blood can also be spotted onto a FTA blood card covering the entire circle or square on the card, and be sure to let the card dry before storing in a cool, dry place.
- Blood cards can be shipped at room temperature.



SEMEN

- Semen straws should be properly labeled with unique IDs for each animal, and packaged protectively in a cane or hollow pen (without ink) to prevent breakage during shipping.
- Semen samples should be shipped on ice packs or dry ice.



SAMPLING TIPS

- Keep detailed and clear records during sampling to prevent duplicated or skipped animals
- Make sure samples are not contaminated with manure, dirt, debris, and tattoo ink
- Clean sampling tools between animals to prevent cross-contamination of DNA
- Store samples out of sunlight and heat, and ship accordingly to prevent DNA degradation

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REFERENCES AND ADDITIONAL RESOURCES

- DNA collection brings value to cattle producers. Scott Holt, Merck Animal Health. <https://www.merck-animal-health-usa.com/species/cattle/cattle-insights/beef/value-of-cattle-dna-collection>.
- DNA sample collection. Megan Rolf, Oklahoma State University and eBEEF.org. https://beef-cattle.extension.org/wp-content/uploads/2019/09/2015-2_DNA_Sample_Collection_Arial.pdf.
- Instructions for Flock54SM parentage and genomic condition testing. Superior Farms. <https://www.flock54.com/submit-dna>.
- SOP: Blood collection in sheep. Virginia Tech University Veterinarian & Animal Resources. https://ouv.vt.edu/content/dam/ouv_vt_edu/sops/large-animal/sop-sheep-blood-collection.pdf.
- Tissue sampling unit DNA collection. Neogen. <https://www.neogen.com/neocenter/blog/tsu-dna-collection/>.

For more information, visit: <https://wpnetwork.extension.wsu.edu/animal-genomics/>

QUESTIONS? CONTACT US!

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