

Member Service | DNA Sampling Guide

by Laura Loschke

DNA testing is vital for improving the beef industry. The American Hereford Association (AHA) requires DNA testing on any sire born on or after Jan. 1, 2011, from which calves are registered. Donor dams from which

calves are registered must also have DNA on file.

As you head into spring calving season, keep the following tips on collecting DNA in mind to help the process go smoothly.

Sampling suggestions

The AHA allows four types of testing samples for DNA submission: hair, blood card, semen straw and tissue sample unit (TSU). Review the tips below for each sample type to follow

the best practices when obtaining and mailing DNA samples. Sample collection resources can be found online at [Hereford.org/genetics/dna-testing/?tab=sample-collection](https://www.hereford.org/genetics/dna-testing/?tab=sample-collection).

HAIR



Collect hair from the tail switch of the animal. Be sure to pull the hair sample; do not cut it. You will need to collect 80–100 strands to make sure the lab can obtain a result. This may seem like a lot of strands, but hair is easily broken and the strand may lack a good follicle or may be contaminated.

Try to make sure the hair is clean of manure, mud, bodily fluids, etc. It is best to wait until the animal is at least weaning age before taking a hair sample. Samples taken from young calves generally do not have a lot of follicles, making it difficult to get results.

BLOOD CARD



To collect a blood sample, draw blood using any method deemed desirable and fill the blotting paper section of the card with blood. Saturate the card just enough to fill the circle, but not enough to make the card soggy. Too much blood can cause a “bad sample” result from the lab. Insert the blood card lid into the top slit, so there is room for air to flow. Allow the card to dry at room temperature in a clean area. Do not use a heating source for drying. Once dry, open the lid and insert it into the bottom slit for storage or shipping.

Blood card samples can be collected at any age, so these are a better option than hair to test a young calf. Blood cards can be purchased from the AHA for 50 cents each, with a minimum order of 10 at a time.

SEMEN STRAW



Semen straws can be used to collect DNA samples for bulls.

Straws can be stored at room temperature for shipping and do not need to be refrigerated. Be aware, though, that semen straws break easily. An ink pen is a simple solution to protect semen straws during shipping. Simply pop the top off an ink pen, pull out the ink chamber, then put the semen straw in the pen. The plastic exterior provides protection for the straw in the mail. A padded envelope works, too, and is recommended to use even when mailing samples have been placed in a protective case.

TISSUE SAMPLE UNIT (TSU)



A great option for taking samples, TSUs use an ear punch to replace tail hair, blood or semen samples. Still, like all sample types, they are not fail-proof.

To collect a tissue sample, you need the proper equipment: tissue sample tubes and a tissue sampling applicator. (Refer to the “DNA sample pricing” sidebar for information on how to order TSU equipment.) Samples can be collected at any age; however, the sample should not be taken immediately after birth. The calf may still have fluids on it that will contaminate the sample. Give the calf at least a few hours to “dry off.”

Before taking the sample, wipe the ear clean with a dry cloth or paper towel. Do not use any cleaning products to clean the ear because they could contaminate the sample. Try to collect the sample from a portion of the ear without a tattoo because tattoo ink can also contaminate the sample. Press the white cap of the sample tube down firmly to ensure liquid cannot escape.

As with semen straws, it is important to properly protect TSUs during shipping. Send samples in a padded envelope or another form of protective casing. They should not be sent in a regular envelope, as they puncture the envelope and fall out during shipping. Often times, envelopes arrive at the lab with a submission form, but no sample.

DNA sample pricing

Genomic profile: \$42

Full package (genomic profile plus horned/polled [H/P] testing): **\$58**

Add-on H/P test: \$30

Mandibulofacial Dysostosis (MD) test: \$20 stand-alone; **\$13** in combination with genomic profile

Tissue Sampling Unit (TSU) credit: \$4

To order TSUs and applicators directly from Allflex, go to [Allflex.com/products/dna-sampling/tissue-sampling-unit/](https://www.allflex.com/products/dna-sampling/tissue-sampling-unit/).

To order TSUs and applicators through the AHA, fill out the online form at [Hereford.org/wp-content/uploads/2017/01/TSU-Order-Form.pdf](https://www.hereford.org/wp-content/uploads/2017/01/TSU-Order-Form.pdf). Mail the completed form to eartags@hereford.org.

Don't forget

All samples should be sent in with the corresponding DNA submission form for the specific animal. Obtain forms from the AHA before sending the samples to the lab. Make DNA requests through MyHerd or contact AHA Customer Service. If samples are received at the lab without the proper AHA paperwork, the samples will not be processed.

Genomic-enhanced expected progeny differences (GE-EPDs) are no longer printed on the DNA results statement. Due to the weekly evaluation, the GE-EPDs have the ability to change frequently. However, GE-EPDs can be found online at MyHerd or the EPD/animal search function on [Hereford.org](https://www.hereford.org).

Please keep in mind GE-EPDs will not appear until two weeks after the AHA receives DNA results. For example, if the AHA receives a DNA result March 1, the GE-EPDs for that animal will be released March 15.

Having trouble navigating MyHerd? Visit [Hereford.org/member-services](https://www.hereford.org/member-services) to view over 20 tutorials explaining the ins and outs of MyHerd, or contact AHA

Customer Service at 816-842-3757. To sign up for MyHerd, email your member number to myherd@hereford.org. **HW**

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