

DNA Sampling Types, Tips and Tricks

DNA testing provides vital and important information, which helps drive beef cattle improvement. The American Hereford Association (AHA) requires all Hereford bulls born after Jan. 1, 2011, to be DNA typed before their progeny can be registered. Donor dams must also be DNA tested before their embryo transfer calves can be registered.

Samples should be sent with the corresponding DNA submission form for the specific animal. These forms must be obtained from the AHA before sending the samples to the lab. DNA requests can be made online through MyHerd or by calling or emailing the AHA customer service department. If samples are received at the lab without the proper AHA paperwork, the samples will not be processed.

What's your type?

The AHA allows several different sample types for testing. To ensure you're using the best practices when gathering and submitting your DNA samples, follow these tips for each sample type.

Hair

When using a hair sample, collect the hair from the tail switch of the

animal. Be sure to pull the hair sample; do not cut it. Each sample should include 80–100 hairs to make sure the lab can get a result. This may seem like a lot, but hair is easily broken, may not have a good follicle attached or could be contaminated. Try to make sure the hair is clean and not contaminated with manure, mud, bodily fluids, etc. When using hair samples for DNA testing, it is best to wait until the animal is at least weaning age before collecting the sample. Hair samples taken from young calves often don't have enough follicles and results may be inconclusive.

Producers will be charged a \$4 surcharge for submitting hair samples for DNA. This will be charged once the results have been received at AHA and the sample type has been confirmed as hair.

Blood card

Blood cards may be purchased from AHA for \$1 per card — minimum order of 10. Blood can be drawn from any method deemed desirable. Be sure to fill the blotting paper section of the card with blood and saturate just enough to fill the circle, but not enough to make the card soggy.

Do not over-saturate the blood card, as this could cause a "bad sample" result from the lab. Insert the blood card lid into the top slit, so there is room for air to get in. Leave the card in a clean area to dry at room temperature. 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 when testing young calves. Please note, do not use a blood sample to DNA test an animal that is or was a twin. The blood samples will fail because the calves share blood in utero.

Semen straw

Semen straws can be used as a DNA sample for bulls. They do not need to be refrigerated when shipped; they can be room temperature. However, semen straws break easily. When shipping, place the straw in something protective. An ink pen easily keeps the straws from breaking. Simply pop open the ink pen, pull the ink tube out and then slide the semen straw down in the pen. The hard plastic of the pen provides protection for the straw in the mail. It is best to use a padded envelope or some other protective casing to send the semen samples though — even when the straw is in a pen.

Tissue Sample Unit (TSU)

TSUs are an effective way to take a sample, but like all samples, not foolproof. The proper equipment [tissue sample tubes and tissue sampling applicator (gun)] are needed to collect TSUs. Order these products from Allflex or through the AHA by filling out the order form found on the website and emailing it to eartags@hereford.org.

TSUs work great for obtaining samples on younger calves because they can be collected at any age. However, the sample should not be taken immediately after birth. The calf could still have fluids on it that would contaminate the sample. Give the calf at least a few hours to dry off. When collecting a tissue sample, be sure to wipe the ear clean. Do not use any cleaning products to clean the ear

DNA Testing Prices

• Genomic Profile:

0-6 Months (<184 days): \$30

6-12 Months (184-365 days): \$46

Over 12 Months (>365 days): \$60

• Genomic Profile plus H/P testing: \$46, \$62 or \$76

• Add-On H/P Test: \$30

• MD & DB Testing: \$20 for stand alone, \$13 if done in combination with a profile

• Hair Surcharge: \$4

• Sample Pull Fee: \$10 (add-on tests requested after the original testing)

because these could contaminate the sample. Simply use a dry cloth or paper towel to wipe the ear. Try to collect the sample from a portion of the ear that doesn't have a tattoo. The tattoo ink could cause the sample to be contaminated and fail testing. Be sure the white cap is pressed down firmly on the tube, ensuring the sample and liquid cannot escape. When shipping TSUs, like semen straws, it is important to protect them properly. Don't send TSUs in a regular envelope as they puncture the envelope and fall out. Send them in a padded envelope or some other form of protective casing.

Don't forget

- If you have trouble navigating MyHerd, visit [Hereford.org/member-services](https://www.hereford.org/member-services) to view more than 20 tutorials that show you the ins and outs or

contact AHA customer service at 816-842-3757. To sign up for MyHerd, email your member number to myherd@hereford.org.

- The AHA performs weekly genetic evaluations. This means the genomic-enhanced expected progeny differences (GE-EPDs) have the ability to change frequently. Therefore, they are no longer printed on the DNA results statement. However, the GE-EPDs can be found online through MyHerd or the EPD/Animal Search function. Please keep in mind, GE-EPDs will not appear until two weeks after the DNA results are received at the AHA. For example, if a DNA result is received at the AHA on Oct. 3, the GE-EPDs wouldn't appear until Oct. 14.

- In order for a bull to be AI permitted, he must be fully parent-verified and tested for all six defects, including MD (Mandibulofacial Dysostosis) and DB (Delayed Blindness). The MD/DB test is a stand-alone test, outside of the standard genomic profile, that tests for both defects, so request it for bulls that will be AI permitted. **HW**

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