

Lowline DNA - An Overview

Why DNA?

The American Lowline Registry (ALR) has set a very high standard for registration of fullblood Lowline cattle. The requirements are much more strict than most registries. Fullblood Lowline cattle must be DNA tested and parent-verified before their registration certificates are issued.

In addition all percentage or purebred bulls who are used to produce offspring that are registered in the ALR or produce semen that will be sold and all purebred or percentage females who are flushed will be required to be DNA tested for parentage verification purposes and reported and recorded with the ALR.

The purpose of DNA testing is to confirm/verify parentage, not "figure out" parentage. It is not a substitute for good management and herdsmanship!

How much does it cost?

\$26 per head. Long-time members may recall that it used to cost \$40 per head. Our growth and increased volume has earned us a better rate.

Where do I start?

1. Get a DNA kit from MMI Genomics.
Each kit is \$2 with a 5 kit minimum.

To order a kit:

- Go online at <http://www.breedtru.com/scart/>
- Call 1-800-311-8808 Ext. 3016
- Fax 530-297-3020

A DNA Sample Submission form is included in each kit.

2. Once you have received your DNA kit, obtain a blood sample. MMI will accept hair samples but there is a surcharge of \$7 each.

MicroCards contain a high-tech material with anti-microbial properties to preserve the sample and avoid contamination. They are similar to the DNA materials used by the FBI and other law enforcement agencies. Technicians at the lab punch out a piece of the blood spot to use for DNA extraction and testing. The remainder of the sample is permanently stored and archived. The blood sample is obtained as follows:

How do I obtain a blood sample?

- 1) Check the identification of the animal to be sampled. Write the animal's ID on the card.
- 2) Hold the tip of the animal's ear, and use a needle to prick the ear.
 - A. Prick the ear near the tip where you are holding it.
 - B. Prick the ear 2-3 times within 1/8" of each prick.
- 3) WAIT, 5-10 seconds for the blood to form a drop
- 4) Open the card, like a matchbook. Holding the back of the card, press the circle printed on the card to the drop of blood. For a sufficient sample, blood should fill at least ½ the area of the circle.
- 5) Repeat steps 1-6 for each animal to be sampled.
- 6) Keep cards separate from each other until the bloodstains are dry. Do not place samples in plastic baggies, as this does not allow the bloodstain to dry on each card. Once they dry, they are stable and require no special handling.
- 7) Fill out a Cattle Testing Submission and Order Form. You would have received it with your DNA Kit or you can [print it here](#). Send the form along with the blood sample and payment to MMI Genomics.
- 8) You will receive results within 2-3 weeks. Once you receive the Tru-Parentage Report from MMI Genomics, you are now ready to register your cattle with the American Lowline Registry.

How do I register my cattle?

You can register your cattle either online or thru the US mail.

In order to apply for registration, you will need the following:

- The Sample ID from the Tru Parentage Report
- A copy of the Tru Parentage Report either saved to your computer or printed out.
- Your animal's tattoo numbers. For more info please see the article: [How to Tattoo](#).

1a. To APPLY FOR CATTLE REGISTRATION ONLINE

Click "[online version](#)" and fill out the form. Online applications are processed with credit cards only.

During the application process you will need to upload your Tru Parentage Report with the application for registration OR you may email your Tru Parentage Report to cattleregistration@usa-lowline.org at the time you apply for registration online.

Note: If your registration requires an A.I. certificate or certificate of embryo recovery (embryo transfer calves), it is recommended that you submit your application via the mail and include all documents with your application.

1b. TO APPLY FOR CATTLE REGISTRATION THROUGH THE US MAIL

Click the "[printable version](#)," and print. Fill out the form and send with a check and the Tru Parentage Report to the ALR office.

How do I reach MMI Genomics if there is a problem?

Call MMI Genomics at 800-311-8808 ext. 3016 or see <http://www.BreedTru.com>

Additional Notes:

A straw of semen may also be used for a DNA sample. Semen straws must be labeled with appropriate animal identification. Package straws so they will be protected from bending and breakage. Semen straws do not need to remain frozen for use as DNA samples, the DNA remains intact at room temperature.

In the case of twins, a hair sample is necessary. Use a baggie or envelope and label it with the animal's identification. Grasp 10-20 tail hairs and yank them out by the root. This root, or follicle, contains the DNA. Place the hairs in the baggie or envelope and seal it.

The official DNA lab is MMI Genomics, located in Davis, California. They are among the leaders in animal DNA testing in the U.S. In addition to Lowlines, they provide DNA services for Angus and many other major breed associations.