



## **DNA Overview:**

DNA technology is moving very quickly and changes occur regularly. When changes or advancements occur questions should be asked. Questions regarding DNA are very common and should be asked whenever arise to ensure that all necessary steps are being taken to ensure the most accurate results. To help with the understanding of the DNA collection, sample submission or results we have put together some of the most frequently asked questions.

### **Why should I submit DNA early?**

- Reduce getting caught in a time crunch to complete a registration.
- Deadlines will be met that require pedigree or EPD updates to DNA tested animals.
- Samples may fail due to quantity or quality of sample and have to resubmit.
- Exclusions may result and have to try other animals.

### **What is the turnaround time?**

The turnaround time from the lab is 15-20 business days. This can vary though depending on if the sample has to be reran, because it failed the first time. Samples that fail are always ran twice to ensure the sample did truly fail the first time. This can take up to 30 days to receive results.

### **Is a Hair or Blood sample better?**

Blood, is better because hair has a higher statistic of failure. Hair also, is more time consuming for the lab to extract the DNA. Due to these reasons the lab is now charging a \$2 processing fee per hair sample. The only time having a hair sample is beneficial is if samples are being submitted on animals that are twins. This is because the blood between twins is cross contaminated in utero.

### **What are the Allflex Tissue Sample Kits?**

The Allflex tissue sample kits are very similar to the application of a tag. The sample is taken and placed into small capsules that preserve the sample until extraction of the DNA is needed. This collection method has helped decrease contamination issues and make efficiencies to DNA collection chute side. If this is of interest please contact the RAAA office or an Allflex provider.

### **How can I prevent any delay in results?**

Submit good quality samples, complete paperwork (including signature of release), payment, and avoid cross contamination. Also, if sires or dams are not on file with

RAAA, please have them sent to us from the respective lab. This ensures results are as accurate as possible.

### **Where should samples be sent?**

Samples should be sent directly to the Red Angus Association of America, 4201 N. I 35 Denton, Texas 76204. Once received in office the samples are evaluated for quality. If any questions arise regarding sample quality or incomplete order forms these are addressed before samples are sent off for processing.

### **Does payment need to be made at time of submission?**

Yes, payment must be made before samples can be sent to the lab. The best way is to send a check with the samples. However, if wish to pay with a credit card either make a note on the order form with contact information or if a card is on file provide the last 4 digits of that card on the order form.

### **Should animals be registered prior to submitting DNA?**

If at all possible yes. This ensures that DNA results will automatically be updated in the database. This is required for samples that are being submitted for Genomic Merit (GGP-HD and GGP-LD). If samples submitted for all other tests do not have registration numbers at time of submission, the member will be asked to provide once available or it will not be entered in database.

### **What is the new 2017 Sire Requirement?**

All sires that will have calves with 2017 date of birth must have a DNA sample on file for parentage. If a sire does not have sample on file, the calves registered to this sire will go on hold( Z status) until resolved.

### **What is GGP-HD and GGP-LD or Zoetis 50k and I50k?**

These products are available to increase the accuracy of the EPD on unproven animals. These tests provide increased knowledge of what the animal will be like in the future. This allows for better selection and culling decisions to occur at a much fast pace. These tests also include a subset of additional information such as parentage.

### **Can DNA testing replace phenotypic data?**

No, DNA is an enhancement to the phenotypic data. For the most accurate DNA results possible make sure to continue to report as much data as available.

### **What is Red Navigator?**

Red Navigator is a test for Commercial Females that reports a percentile Rank for the RAAA EPD Suite. However, these numbers are not directly comparable to registered animals, but allows for further analysis of commercial females on a numeric scale. This is a great tool to use along side phenotypic selection and includes parent verification to the sire (if on file). The cost is \$25/head. If this test is of interest don't hesitate to contact the RAAA for further information.

**Why do samples fail?**

- Cross Contamination (fresh, wet samples stacked on top of each other, new needle not used for each animal, twins)
- Dirt/Feces
- Chemicals (insecticide, tattoo ink, lotion, germx, etc.)
- Exposure to extreme heat and/or sunlight
- Not enough sample
- Blood samples submitted on twins (cross-contaminated in utero)

**What does Qualified, Excluded, and Not on File mean?**

*Qualified-* The sire/dam of the tested animal were on file and the test confirmed parentage.

*Excluded-* The sire/dam of the tested animal were on file, and the test did NOT confirm parentage.

*Not on File-* The sire/dam does not have a DNA profile on file at the lab with SNP markers and parentage cannot be confirmed at this time

**What if samples have completed parentage with the old technology (ISAG or Microsatellite)?**

If sires or dams have been completed for parentage using ISAG technology they do meet the RAAA requirements for sires and ET dams. However, if calves are needing to be parent verified to these animals, then the sample originally submitted will either need to be converted to the new technology (SNP), or a new sample will need to be submitted to be tested with the new technology (SNP).