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Lauren Bockel

4800 Heathrow Lane

Alvin, Texas 77511

281-823-2577

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Why & How Is DNA Important To The Braunvieh Association?

What is DNA? DNA is described as deoxyribonucleic acid. A self-replicating material which is present in nearly all living organisms as the main constituent of chromosomes. It is the carrier of genetic information.

DNA testing can be used for a variety of purposes such as aiding in selection and breeding choices, sorting into management groups, pedigree verification and even marketing. The successful use of DNA tests for these purposes requires a basic understanding of how they work and how the results should be applied.

The results of genomic tests and the incorporation of this information into breeding programs and national cattle evaluation have become a powerful tool for cattle producers to utilize. Several companies offer DNA marker tests for a wide range of traits in beef cattle. The inclusion of this information in genetic evaluations and the expected progeny differences (EPD's) is evidence of progress and has increased the usefulness of genomic information.

There are a variety of reasons why a beef cattle producer might want to collect a DNA sample from an animal. Some purebred producers might need to verify the parentage of an animal before the animal can be registered. Due to recent discoveries of many genetic defects, producers need to test animals that are potential carriers of certain defects. There are also several commercially available DNA marker tests for production and carcass traits. All of these require obtaining a clean sample from an animal. Producers need only to submit a blood, hair, or tissue sample from an animal to the testing facility. Please note that hair samples must be pulled and have the root attached so that DNA can be extracted. Cutting hairs will not work. The switch of the tail is the recommended location for extracting hair samples. After collection and submission to

the respective breed association or testing facility, samples are submitted to the genotyping laboratory where several thousand markers are read from the DNA extracted from the samples.

Unlike simply inherited traits, parentage tests look at many genes or DNA markers to compare calf to parent with greater certainty. Genotyping animals allow for the true sire to be correctly identified. These genetic tests allow for more accurate information for breeding and culling decisions by helping to identify bulls that are making the largest amount of progress toward the producer's genetic goals. The use of DNA marker information can serve useful for early prediction of the genetic makeup of an animal before phenotypic records are collected and would increase the accuracy of young sires. The identification of an animal's parents using DNA marker technology has many advantages.

Because this technology is constantly changing, it is important to stay up to date on new genetic tools and their application to specific breeding objectives. Most likely the list of genetic selection tools will continue to improve as new testing and procedures are constantly being updated.

Implementing the DNA testing into the Braunvieh Association will contribute in many ways. It will allow the association and the breeders to build genomic-enhanced EPD's, allow for further parentage testing of breed sires, further develop and increase the supply of performance-tested bulls for commercial customers, assist in purebred selection, and help improve sales and marketability.

Braunvieh are one of the most adaptable breeds of cattle and are known as a balanced breed, possessing body confirmation for optimum physiological performance. This breed is rapidly becoming noted for the carcass traits that are needed to carry the beef industry into the

next century. Braunvieh sired steers have consistently hung up top carcasses all around the country.

An added bonus is that Braunvieh females are proven to be early maturing and extremely fertile. Braunvieh bulls are capable, fertile breeders at 12 to 14 months of age. Braunvieh daughters are model replacement heifers. And Braunvieh females excel in maternal function delivering fertility and longevity (udder quality, fleshing ability, disposition, feet and legs), plus hybrid vigor in systematic crossbreeding programs. The Braunvieh udder is a model for the beef-producing cow, and the milk flow keeps calves growing. Braunvieh genetics produces more pounds of marketable weight, and marbles well with superior cutability without the fat. Their feed efficiency is excellent in converting pasture to meat. Many breeders have stated that when it comes to feed efficiency, Braunvieh make the most of what they eat. In other words, they do more with less.

This is the breed to lead the beef industry into the future. Braunvieh are a complete breed. They are the most docile, more fertile, produce more milk and are more feed efficient than many of the hugely popular breeds of today. It has been said many times over..., The Braunvieh breed puts it all together: Maternal, Muscling, Marbling, and Performance. Therefore, the Braunvieh breed should flourish from implementing a required DNA testing program into the breeding registry.