



Montic Soules | asa executive secretary/CEO

Genetic Evaluation Update

Issued in March

Genomically Enhanced EPDs (GE-EPDS)

For Traits:

BW, WW, YW and CW

New Stayability Trait

Run in Bolt as a Separate Trait

**Stayability is the First EPD
From Bolt One Step Process**

**The First Stayability EPD
For a Multi-Breed Evaluation**

Shorthorn Impact Breed Initiative

Develop Better Shorthorn Cattle

Shorthorn Breeders Producing Better Animals
Use Extensive Culling Practices

Create Sire Test Program

Identify Cooperator Commercial Test Herds
Breeders Contribute Semen for Sire Testing

Membership Recognition

Develop New Programs to Recognize Members
Years of Membership, Shows,
Performance and Special Achievements

In March, the Shorthorn Breed will publish its first Genomically Enhanced EPDs. We have waited a long time for these combined EPD calculations. We will also add to the list of traits a Stayability EPD formulated with state of the art software, Bolt, which is the new one-step software system. I will explain the difference in the calculating process for the Genomically Enhanced EPDs which we will be receiving for BW, WW, YW and CW, and the process of calculating Stayability. Matt Woolfolk, our new Director of Performance Programs will define and explain the details of the Stayability EPD on page 68.

Many of you may have heard the terms “one-step” and “blended” in relationship to Genomically Enhanced EPDs; let’s look at the differences between these processes and the method used to calculate our EPDs for the past 25 years. First, the Shorthorn breed is a partner with International Genetic Solutions (IGS), a group of 12 cattle breeds (over 18 million head) which makes up the largest multi-breed genetic evaluation in the world, producing EPDs comparable among all the participating breeds in the same data bank. These EPDs have been calculated with the Cornell System software developed at Cornell University about 25 years ago.

Once the capability to detect trait-related DNA markers and the Molecular Breeding Values (MBVs) was developed, then the blended process combined these values with the EPDs calculated from the Cornell software. This is known as blending for Genomically Enhanced EPDs. The Shorthorn Breed will be publishing, for the first time, this type of Genomically Enhanced EPDs for BW, WW, YW and CW in March. This blending process used for these Shorthorn traits comes from parameters that have been developed and proven by the multi-breed genetic evaluation. The science indicates there are similar DNA markers across breeds that have a high or direct influence on these traits. The Blending Process for the genomics only influences the direct animals having the equivalent of 50K DNA or better in the system.

In the Bolt software, the one-step process means, the DNA markers from the lab are directly inserted into the software running the genetic evaluation along with the phenotypes (performance data) and the pedigree. All this data is run simultaneously through the Bolt software. As a result, the DNA has an impact not only on the individual with DNA recorded, but also on all the cattle related to that individual. This enhances the accuracy for each of those animals impacted by the DNA. The Stayability EPD is calculated with Bolt one-step software using the entire IGS data bank. This is the first time the Stayability EPD has been produced from a multi-breed genetic evaluation; it is also the first EPD produced using the Bolt one-step system.

These new EPDs released in March will have the benefits of 2 new technologies as part of their formulas and are comparable to the other IGS breed partners that are in our genetic evaluation. Shorthorn animals that have 50K equivalency will have EPDs denoted as GE-EPDs. The only traits that will be GE-EPDs at this time are BW, WW, YW and CW. The parameters used for these first Genomically Enhanced Shorthorn EPDs are the same parameters that will be used in Bolt when the entire IGS data bank is run through the one-step process.

IGS is preparing to publish Genomically Enhanced EPDs for all traits using Bolt in the future. When they do publish, Bolt EPDs they will be released in steps, with growth traits first, then carcass traits and then maternal traits. I hope to see the growth traits run through Bolt with our next genetic evaluation. The new GE-EPDs for Shorthorn in some ways is a sneak preview to the upcoming full-blown one-step process.

This month will mark a first for the Shorthorn Breed by publishing Genomically Enhanced EPDs. It has been a long time coming, and the old saying “good things come to those who wait” may be appropriate here. Many have been anxious to receive this data and have been waiting patiently. These new EPDs published in March provide one more step that continues to place Shorthorns in a competitive position within our industry for the future!