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AHA Releases Updated Genetic Evaluation

The American Hereford Association recently launched its updated genetic evaluation.

by Julie Mais

The American Hereford Association (AHA) released the first updated expected progeny differences (EPDs) and corresponding accuracies using the Biometric Open Language Tools (BOLT) genetic evaluation software Dec. 4. The new genetic evaluation also includes two new traits, Sustained Cow Fertility (SCF) and Dry Matter Intake (DMI), as well as updated profit ($) indexes.

"It's long been our goal to provide Hereford breeders the most advanced and reliable genetic evaluation possible," says AHA President Kevin Schultz. "This new genetic evaluation gives us one of the best tools to identify breed-leading genetics at a faster pace than ever before."

Due to the industry-leading Whole Herd Total Performance Records (TPR™) program, in its 17th year, with 53,000 Hereford genotypes on record, the AHA is poised for a stronghold in the DNA era — making Hereford cattle even more predictable.

Last year the Association pursued a genetic evaluation overhaul to allow for better use of genomics in its evaluation.

"BOLT provides a more robust evaluation by calculating true accuracy on animals," says AHA Chief Operating Officer and Director of Breed Improvement Shane Bedwell.

Utilizing BOLT, all factors associated with contemporary group makeup will be accounted for in the calculation of true accuracy. This genetic evaluation system moves away from a full multi-trait model, decoupling models to better estimate traits of interest. It also modifies contemporary group structure to allow for as much data as possible to affect the evaluation.

In addition, BOLT utilizes a cutoff strategy which only includes animals born after 2001 and animals related by three generations of pedigrees.

"A genetic evaluation backed solely by Whole Herd TPR data strengthens the evaluation and takes out selection bias that occurred pre-Whole Herd TPR," Bedwell says.

Hereford breeder Jack Holden, Valier, Mont., was a member of the advisory committee — comprised of cattlemen and the scientific community — which was tasked with reviewing the new genetic evaluation.

"The process of generating the new genetic evaluation was really outstanding, and I feel comfortable with where we're at now,"

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>
> — **Shane Bedwell**

Holden says. "BOLT will give us better, more accurate indications of genetic potential in our animals. Any time we can identify that quicker, along with finding cattle that fit phenotypically, we can make faster genetic progress to improve our herd."

New traits and updated $Indexes

Released with the new genetic evaluation are two new traits: SCF and DMI. The AHA's new SCF EPD is a prediction of a cow's ability to continue to calve from three years of age through 12 years of age, given she calved as a two-year-old. The EPD is expressed as a deviation in the proportion of the 10 possible calvings to 12 years old expressed as a probability.

"The new SCF EPD is a powerful tool," Schultz says. "In a commercial cow herd, longevity and fertility are profit drivers. We're providing a new tool for that purpose."

Feed intake records from AHA research projects and breeder data collection have been analyzed in a genetic evaluation to predict the DMI EPD. Reported in pounds of feed consumed per day, this EPD characterizes genetics for intake, with a lower numeric value being associated with less feed consumed on a dry matter basis.

SCF and DMI will now be included in the AHA $Indexes, along with other economically relevant traits (ERTs) including carcass weight (CW) and mature cow weight (MCW).

"Adding these ERTs into the profit indexes will provide a more robust and comprehensive selection tool for commercial producers to select Hereford bulls to be used on Angus based cows," Bedwell says.

DMI and CW will be included in all three AHA $Indexes to help predict the cost associated with feed inputs and to measure the end-product pounds that are critical for profit.

"SCF will replace scrotal circumference as the predictor of fertility and be a large contributor to both maternal indexes," Bedwell says. "Because of the inclusion of these key ERTs, animal index values may change."

EPDs will be released once a week, an increase in frequency from the previous 10 times a year. **H**W

Editor's note: For more information on the updated genetic evaluation, visit *Hereford.org* or read Page 28 of 2017 the December *Hereford World*.