

Association Releases Heifer Pregnancy EPDs

The American Angus Association recently released its first research heifer pregnancy genetic evaluation. This project is part of a comprehensive effort to characterize economically important traits

in Angus cattle and to develop selection tools to benefit commercial producers and seedstock breeders.

The initial research includes sire heifer pregnancy expected progeny differences

(HP EPDs). These EPDs are designed to identify genetic differences among sires for daughter pregnancy.

“Even though reproductive traits are recognized as being lowly heritable, this

research allows us to provide a genetic value to commercial producers in an area of high economic importance,” says Sally Northcutt, genetic research director for the Association.

Conducting the analysis

To conduct the analysis, a heifer’s breeding record was coded as a success or failure of being pregnant, based on any pregnancy-check data or calving information recorded and submitted by the breeder. Heifers were excluded from the analysis if their age at the time of the evaluation did not allow them time to have recorded a calf.

Edited data on heifers were analyzed in a threshold analysis with a full animal model and three-generation pedigree. Variance components from research in collaboration with Mark Enns at Colorado State University were used in the analysis representing a heritability of 0.13.

HP EPDs were generated on 41,047 animals, as described in Table 1.

Table 1: Descriptive statistic for heifer pregnancy genetic evaluation

No. of heifer breeding records	15,974		
No. of contemporary groups	391		
No. animals with EPDs	41,047		
	Mean	Min.	Max.
Mean EPD ^a	8	-8	16
Mean Accuracy	.24	.05	.89

^aCurrent sires (n = 1,269).

Using HP EPDs

HP EPDs are to be used as a tool to increase the chance of a sire’s daughters becoming pregnant during a normal breeding season. The unit of measure for the EPD is a percentage. A higher EPD is the more favorable direction for selection pressure. As with other EPDs, the relative difference among sires is of importance rather than the absolute value.

For example, assume you have 100 daughters for each of two bulls that are managed and treated alike in the same breeding environment. Bull A has a +13 HP EPD; Bull B has a +8 HP EPD. When comparing the two bulls, one would expect an average of 5 more pregnant daughters out of 100 from Bull A compared with Bull B. Essentially, Bull A’s daughters are predicted to have a 5% greater chance of becoming pregnant than Bull B’s daughters.

The Fall 2007 heifer pregnancy research report contains HP EPDs and accuracies for 429 sires. The release of HP EPDs is in the form of a web-based research report found at www.angussiresearch.com containing sire EPDs with a minimum 0.30 accuracy. Printed copies are available on request. If you have questions, contact the Performance Programs Department at 816-383-5100.

