

AMERICAN ANGUS ASSOCIATION®

GENOMIC-ENHANCED EPDS

FACT SHEET



Genomic-enhanced expected progeny differences (EPDs) for multiple carcass traits are calculated using the American Angus Association® carcass and ultrasound data in combination with the IGENITY® profile for Angus. Together, the information provides a more thorough characterization of economically relevant traits with improved accuracy on young animals. Additional traits are also evaluated, and producers can access the Igenity profile scores on traits not currently expressed in EPDs.

HOW TO READ THE IGENITY® PROFILE FOR ANGUS RESULTS

Calving Ease Direct (CED) characterizes an animal's genetic potential for unassisted births in first-calf heifers, with a higher value being more favorable to influence calving ease.

Birth Weight (BW) is an indicator of calf weight, with a lower value characterizing lighter birth weight calves.

Weaning Weight (WW) is an expression of genetic potential for calf weight at weaning, with a higher value indicating more pounds of weaning growth.

Average Daily Gain (ADG) describes an animal's genetic potential for postweaning rate of gain. Directed toward the feedlot period, a higher value indicates more average daily gain.

Yearling Weight (YW) describes an animal's potential for postweaning gain measured near one year of age, with a higher value reflecting more total pounds.

Residual Feed Intake (RFI) describes an animal's feed intake above or below its predicted need for maintenance and growth. Lower scores indicate less intake.

Dry Matter Intake (DMI) is an expression of feed intake on a dry matter basis. A higher value characterizes more feed consumed by the animal, while a lower value indicates the animal has potential to eat less feed.

Yearling Height (YH) characterizes an animal's genetic potential for height or frame, with a higher value indicating more yearling size measured at the hip.

Scrotal (SC) characterizes an animal's genetic potential for scrotal circumference, with a higher value indicating more yearling scrotal size.

Docity (DOC) is the animal's genetic potential to be extremely calm, or to have calm offspring. Higher values indicate an improvement in cattle temperament.

Heifer Pregnancy (HP) is used as a tool to increase the chance of a sire's daughters becoming pregnant during a normal breeding season. Higher scores are considered more favorable.

Maternal Calving Ease (CEM) characterizes an animal's genetic potential for unassisted births in first-calf daughters. A higher value would indicate more favorable genetics for the ease with which daughters calve as first-calf heifers.

Maternal Milk (MILK) is an indicator of milk and mothering ability as expressed in daughters. A higher value characterizes more milk expressed in pounds of weaning weight in a daughter's calves.

Mature Weight (MW) is an expression of genetic potential for mature cow weight at six years of age, with a higher value indicating larger cow size in pounds.

Mature Height (MH) characterizes the genetic potential for mature cow height at six years of age, with a higher value indicating larger cow size in frame or height at the hips.

Carcass Weight (CW) is a genetic predictor of hot carcass weight as measured at harvest time. A higher value characterizes more pounds expressed.

Marbling (MARB) is an expression of the potential to improve the USDA marbling score, which is used to predict Quality Grade in beef cattle. A higher value indicates a higher marbling score.

Ribeye Area (RE) is a predictor of ribeye area in a carcass of a sire's progeny compared to progeny of other sires. A higher value indicates a larger ribeye area.

Fat Thickness (FAT) is a predictor of the differences in external fat thickness as measured between the 12th and 13th carcass ribs. Lower scores indicate less external fat.

Tenderness (TEND) represents the genetic potential for tenderness as measured by the Warner Bratzler shear force test, with the higher profile scores being more tender than lower scores.

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HOW TO USE GENOMIC-ENHANCED EPDS FOR ANGUS

Genomic-enhanced EPDs are to be used in the exact same way other EPDs are used, as a comparison between animals. These EPDs include all available records, including ultrasound, carcass, and genomic profile results. As data is added to an animal's record, the EPD is expected to change to reflect the animal's true genetic merit. Accuracy values associated with the EPD are the best indicator of the possible amount of change expected in the EPD and will increase as more information is added.

Carcass EPDs and Accuracy					
CW Acc	Marb Acc	RE Acc	Fat Acc	Carc Grp Carc Pg	Usnd Grp Usnd Pg
+19	+64	+48	-.011		
.30	.38	.35	.28		

DNA PROFILE SCORES

EPDs may not be currently available for all traits. Genomic results on animals are accompanied by categorical rankings, or Profile Scores. The profile scores from the IGENITY profile for Angus are reported on a scale from 1 to 10 to assist producers in understanding the relative value of an animal's genetic potential based on DNA analysis. Profile scores do not predict actual phenotypes. Higher scores reflect that the animal has more genetic potential for that particular trait based on the combination of DNA markers analyzed. The higher scores do not necessarily indicate that it is the most desirable.

DNA PROFILE SCORES										
CED	BW	WW	ADG	YW	RFI	DMI	YH	SC	DOC	HP
7	4	5	6	10	3	6	4	4	2	7

DNA PROFILE SCORES									
CEM	Milk	MW	MH	CWT	MARB	RE	FAT	TEND	
4	5	6	5	8	9	9	8	4	