

GE-EPDs — Including Genomic Information into the Angus Weekly Genetic Evaluation

Sally L. Northcutt
American Angus Association
Angus Genetics Inc.

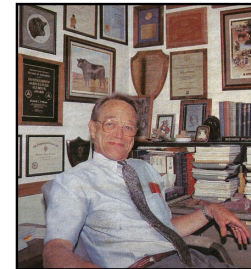
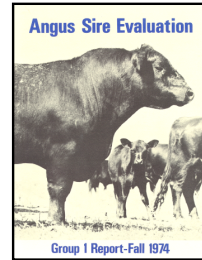


2011 Beef Improvement Federation June 3, 2011

The Evolution of Performance Programs

1972 National Angus Sire Evaluation began

1974 Angus Sire Evaluation Report produced



The Evolution of Livestock Measurement

AVERAGE DAILY GAIN

ADG	WW	ADG	ADG	ADG	ADG
172	116	142	111	5.4	123

WITHIN HERD RATIOS

EXPECTED PROGENY DIFFERENCES

BW	WW	YW
+1.3	.34	.25

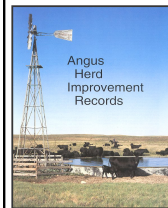
\$ VALUES: BIO-ECONOMIC INDEXES

GENOMIC ENHANCED EPDs and INDEXES



\$Weaning	+31.87
\$Feedlot	+47.72
\$Grid	+38.26
\$G	+28.41
\$YG	+9.85
\$Beef	+67.61

AAA Beef Improvement Records



319,686 weaning wts
16.5 million pedigrees
18 million measures

Fiscal 2010



Turning Data Into...

Production EPD										Maternal EPD										Carcass EPD									
EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD										
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1										

GENEALITY LEADLINE: AAA #12083612 (per car)

SIRE: CONNELLY LEADLINE AAA #1344732 (per car)

CONNELLY ORWANT: AAA #12083612 (per car)

G.A.B. TRAVELER 3889 AAA #1355896 (per car)

ALTITUDE OF CONINGA 6104 AAA #1318108

ANGUS HERD OF CONINGA 6276 AAA #12083612

SETZ TRAVELER 3889 AAA #11720475

SETZ VALUE 7097 AAA #12755008 (per car)

SETZ EDA EVERGREEN 751 AAA #13534492

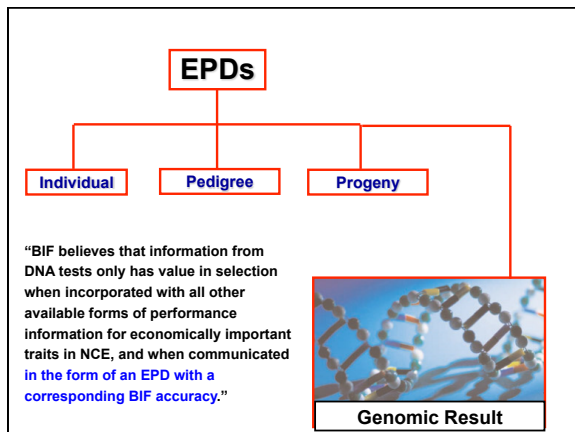
SETZ HENRIETTA PRIDE 841 AAA #14087650

SETZ HENRIETTA PRIDE 1376 AAA #13092912 (per car)

SETZ HENRIETTA PRIDE 1376 AAA #13092912 (per car)

SETZ HENRIETTA PRIDE 1376 AAA #13092912 (per car)

Production EPD										Maternal EPD										Carcass EPD									
EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD	EPD										
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1										



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AMERICAN ANGUS ASSOCIATION® — THE BUSINESS BREED

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AGI


Established in 2007, Angus Genetics Inc.® (AGI), a subsidiary of the American Angus Association®, was created to provide services to the beef industry that would assist in the genetic evaluation of traits of economic importance.

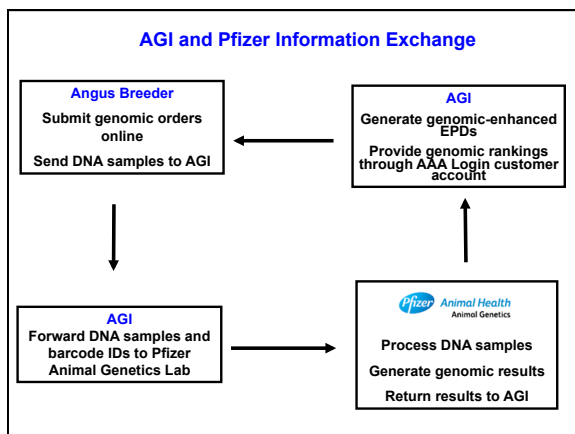
AGI develops and promotes technology for use by the beef industry, including DNA technology. AGI has developed genomic-enhanced EPDs for the Angus breed that are updated on a weekly basis. AGI also conducts research and develops and utilizes new science and technology to benefit all beef producers. AGI provides client specific genetic evaluation services to various breed organizations in the U.S. and Canada.

DNA testing services are available through AGI for Angus breeders. Genomic trait testing, parentage testing and genetic defect testing are now available through your AAA Login account.

To order DNA testing go to your AAA Login account.


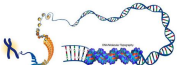

[Click here for information on the Pfizer HD50k test](#)

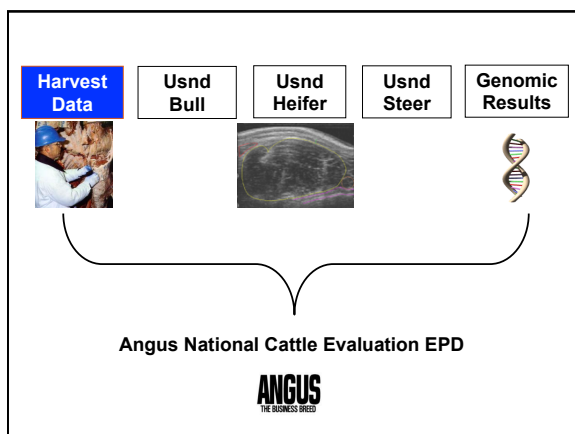




AGI Steps to Genomic Enhanced EPDs

- Establish genetic relationships between the genomic result and the phenotypic trait data.
- Incorporate genomics into the EPD math.
- Release the new genomic-enhanced EPD
- Next Release
 - Pfizer HD50k results into Calving Ease EPDs



Genetic correlation between Pfizer 50k genomic results and phenotypic trait of interest (AHIR data)

Carcass Marbling	.57
Carcass Rib	.60
Carcass Fat	.56
Carcass Weight	.48
Dry Matter Intake (component of RADG)	.65
Birth Weight	.51
Weaning Weight	.52
Yearling Weight	.64
Milk	.32
Calving Ease Direct	.33 (next release)

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 Work History as of 01/15/2011.
 Animals must be registered to access EPDs.
 Type: [DATA Entry](#)

AMERICAN ANGUS ASSOCIATION
 Beef Improvement Record
 AGI Percentile Rank Summary

TAG ORDER
 Results Recvd Date: 1/15/2011 Lab: PFCZ
 Regd:

ANIMAL IDENTIFICATION				GENOMIC Percentile Rank															
TAG	ANIMAL	DATE	DATE	CE	EW	WW	ADG	YR	HT	DM	CEM	MR	CS	MR	FE	FS	Tot		
1001	AAA 1001	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
1002	AAA 1002	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
1003	AAA 1003	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
1004	AAA 1004	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
1005	AAA 1005	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
1006	AAA 1006	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
1007	AAA 1007	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
1008	AAA 1008	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
1009	AAA 1009	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
1010	AAA 1010	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
1011	AAA 1011	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
1012	AAA 1012	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
1013	AAA 1013	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
1014	AAA 1014	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
1015	AAA 1015	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
1016	AAA 1016	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
1017	AAA 1017	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
1018	AAA 1018	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
1019	AAA 1019	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		
1020	AAA 1020	01/15/2011	01/15/2011	98	98	98	98	98	98	98	98	98	98	98	98	98	98		

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G A R Predestined Reg: AAA #13396344 Bull
Birth Date: 01/15/1999 Tattoo: 5099

Percentage: Blood Type: Microsatellite: SNP

Genome: G1, K284, PPS

Breeder: 182504 - Gardiner Angus Ranch Inc, Ashland KS

Owner(s): 182504 - Gardiner Angus Ranch Inc, Ashland KS

594288 - Select Sires Inc, Plain City OH

As of 05/27/2011

Production								Maternal					
CE Acc	BW Acc	WW Acc	YW Acc	RADG Acc	YH Acc	SC Acc	Doc Acc	CEM Acc	Milk Acc	M&M M&O Acc	MW Acc	MH Acc	SEN
+4 .88	+4.0 .98	+52 .97	+98 .96	+0 .80	-1 .97	+29 .96	+12 .94	+9 .89	+30 .92	848 3799	+1 .90	+0 .90	+6.00

Carcass					
CW Acc	Marb Acc	RE Acc	Fat Acc	Carc Grp Carc Pg	Usnd Grp Usnd Pg
+31 .86	+1.21 .88	+64 .87	+0.43 .87	110 402	6514 18294

\$Values					
\$W	\$F	\$G	\$QG	\$YG	\$B
+39.82	+36.45	+39.49	+36.26	+3.23	+73.42

Genomic Impact

- Improved selection tools for use in genetic progress.
- Rapid weekly genetic predictions.
- Genetic values for traits that are difficult to measure.
- Improved accuracy of prediction for nonparent animals.



Opportunities

- New genomic-enhanced EPD releases.
- Continued refinement of genomic panels.
- Genetic values for traits that are difficult to measure.

- Reproduction
- Efficiency
- Herd Health