

Genomic Testing in Beef Cattle at a Glance

Parentage

- Sire and dam IDs are matched and directly reported with offspring IDs.

Animal ID	Sire ID	Dam ID
12345	A123	00123
12346	H456	00124

Animal ID	Genotype
12345	H/H
12346	H/h
12347	h/h
12348	h/h

Single-Gene Tests

- Single-gene or single-SNP tests are reported as a genotype represented by a number (0,0 or 0,1 etc.) or letters (H/H, H/h, or h/h for polled/horned).

Genomic Expected Progeny Differences (GEPDs)

- Values are often reported as an animal's deviation from the breed mean (+/-), which is not necessarily 0.
- Accuracy (ACC) is how likely the prediction is to match the true value, which increases with more information from progeny and genetic testing.
- Percent rank represents an animal's ranking among others within a breed.
- Some GEPDs are reported as scores from low to high (1-10).

	CW	MARB	REA
EPD	91	1.27	1.35
ACC	0.44	0.40	0.39
% RANK	1	5	1

Animal ID	MARB	REA	FAT
12345	8	5	8
12346	9	4	7
12347	9	5	8
12348	7	7	5

Bull A	\$W	\$F	\$G	\$B
INDEX	76	139	93	232
% RANK	10	1	3	1

Bull B	\$W	\$F	\$G	\$B
INDEX	75	108	100	208
% RANK	15	20	2	2

Selection Indices

- Selection indices are reported most often as dollar (\$) values above breed average with percentile rankings for each animal.
- Some selection indices are breed-specific and cannot be compared or will need adjusting to compare across breeds.

For more information, visit: <https://www.extension.wsu.edu/animal-genomics>

GEPD and Index Terminology Key

<u>Production GEPDs</u>	
Acronym	Trait
CE or CED	Calving ease or calving ease direct
BW	Birth weight
WW	Weaning weight
YW	Yearling weight
RADG	Residual average daily gain
DMI	Dry matter intake
YH	Yearling height
SC or SCR	Scrotal circumference
Doc	Docility
Claw	Claw set (hoof)
PAP	Pulmonary arterial pressure (elevation tolerance)
HS	Hair shedding

<u>Maternal GEPDs</u>	
Acronym	Trait
HP or HPG	Heifer pregnancy
CEM or MCE	Calving ease maternal or maternal calving ease
Milk or MM	Maternal milk
MKH	Number of herds reported
MKD	Number of daughters
MW or MCW	Mature weight or mature cow weight
MH	Mature height
TM	Total maternal
MWW	Maternal weaning weight
M&G	Maternal milk and growth
ME	Maintenance energy
STAY	Stayability

<u>Index \$Values</u>	
Acronym	Trait
\$M	Maternal weaned calf value
\$W	Weaned calf value
\$F	Feedlot value
\$G	Grid value
\$B	Beef value
\$C	Combined value (\$M and \$B)
\$E	Cow energy value
BMI\$	Baldy maternal index
CHB\$	Certified Hereford beef index
API	All-purpose index
TI	Terminal index

<u>Carcass GEPDs</u>	
Acronym	Trait
CW or HCW	Carcass weight or hot carcass weight
MB, MRB, or Marb	Marbling
RE or REA	Ribeye area
BF or Fat	Fat thickness (12 th rib)
YG	Yield grade
SHR	Shear force

Questions? Contact Us!

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