

GENETIC TESTS 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

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).

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/or 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://wpnetwork.extension.wsu.edu/animal-genomics/>

Kimberly M. Davenport, Assistant Professor, Department of Animal Sciences, Washington State University

Sarah M. Smith, Regional Animal Science Specialist, Washington State University Extension Moses Lake

Holly L. Neibergs, Professor, Department of Animal Sciences, Washington State University

GEPD AND INDEX TERMINOLOGY KEY

PRODUCTION GEPDS

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

MATERNAL GEPDS

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

CARCASS GEPDS

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 (12th rib)
YG	Yield grade
SHR	Shear force

INDEX \$VALUES

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 (Hereford bulls bred to Angus cows)
CHB\$	Certified Hereford beef index
API	All-purpose index (Simmental bull bred to Angus heifers and cows)
TI	Terminal index (Simmental bull bred to mature Angus cows)

- Some breed associations calculate and report their own index \$values (a few examples are given on this sheet).
- Crossbred animals can be DNA tested with general parentage and single-gene tests, and tests that will output GEPDs and index values designed for crossbreds.
- Contact your breed association for specific instructions on DNA submission, and reach out to animal genomics extension with questions about submitting samples and interpreting results.

QUESTIONS? CONTACT US!

Dr. Kim Davenport

Email: kimberly.davenport@wsu.edu

Phone: (509) 335-4124

Website: <https://wpnetwork.extension.wsu.edu/animal-genomics/>

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