

Terminology:

EPD Information

EPDs (Expected Progeny Difference)- A measure of the expected differences in performance of a sire's progeny when compared to the average progeny of all sires evaluated within the same breed. This prediction is based on actual performance, progeny performance and relatives' performance.

ACC (Accuracy)- The reliability that can be placed on the EPD. An accuracy of close to 1.0 indicates higher reliability.

P (Pedigree estimate), I (Interim) - The EPD is based on performance information of a bull's sire, dam, and relatives.

B (backsolution)- Denotation of a young sire's accuracies prior to having any progeny data included.

CE (Calving Ease)- The ease with which a bull's calves are born. This EPD is expressed in percent unassisted births with the more positive number indicating greater calving ease.

BW (Birth Weight)- The birth weights of a bull's progeny when compared to the breed average, in pounds.

WW (Weaning Weight)- The adjusted weaning weights of a bull's progeny when compared to the breed average, in pounds.

YW (Yearling Weight)- The adjusted yearling weights of a bull's progeny when compared to breed average, in pounds.

SC (Scrotal Circumference)- The adjusted yearling scrotal circumferences of a bull's progeny when compared to breed average, in centimeters.

Milk- A measure of the amount of pre-weaning performance gained by calves which can be attributed to the milking ability of a bull's daughters. The EPD is expressed in pounds of calf.

TM, MWW (Total Maternal, Maternal Weaning Weight)- Each of these terms measures a sire's ability to transmit milk production and growth rate through his daughters. It predicts the weaning weight of a sire's daughters' calves. It is equal to his milk EPD plus one-half his weaning weight EPD.

HPG (Heifer Pregnancy) - Heifer pregnancy EPDs estimate differences in daughters' ability to conceive to calve as a two year old. Heifer pregnancy EPDs are expressed in terms of a percentage difference.

CED (Calving Ease Direct)- The ability of a calf to be born unassisted. This EPD is a result of the calf's genetics (the calf's size and shape at birth). CED EPDs are expressed in terms of a percentage difference.

CEM / MCE (Calving Ease Maternal) - This EPD reflects the ability of a two year old to have a calf unassisted. The CETM EPD is a reflection of the environment provided by the calf's dam (the dam's pelvic area and uterine environment). CETM EPDs are expressed in terms of a percentage difference.

STAY (Stayability) - This epd for bulls is the prediction of the genetic differences of daughters' probability of staying in the herd to at least the age of six years. This can be interpreted as sire's daughters staying in the herd due to sustained fertility and structural soundness.

CW (Carcass Weight)- The adjusted carcass weights of a sire's progeny, expressed in pounds.

MB (Marbling)- The adjusted marbling score of a sire's progeny, expressed in pounds.

FAT- The adjusted 12th rib fat thickness of a sire's progeny, expressed in inches.

REA (Rib Eye Area)- The adjusted rib eye area of a sire's progeny, measured in square inches.

%RP (Percent Retail Product)- A predictor of the difference in pounds of saleable retail product of a sire's progeny.

%RC (Percent Retail Cuts)-(Simmental breed only) An estimate of the yield of closely trimmed, boneless retail cuts from the round, loin, rib and chuck. Expected progeny performance is reported in percent.

Ultrasound- Ultrasound epds are provided from the American Angus Association and are based on Ultrasound data collected from a sire's progeny. Ultrasound data is also used in evaluation of individual young sires. Information is reported as ratios from contemporaries.

Sire Calving Data

Calving Ease Rating- Designations are a subjective estimate of a bull's calving ease. Objective data such as birth weight and calving ease reported information for heifers and cows is considered.

Interpretation is as follows:

_____ - A bull proven for a high level of calving ease based on calving ease scores, birth weight EPDs and accuracy level.

_____ - A bull that can be used on heifers.

_____ - A bull that can be used on cows with minimal assistance expected.

_____ - A bull that should only be used on cows with larger birth weights expected.

NA- A bull that is unproven or information not available.

Sire Information

Homozygous Polled- These bulls have a 99.9% probability of being homozygous polled, having been test mated to horned and heterozygous polled cows. Expect these bulls to sire all polled calves.

Heterozygous Polled- These bulls are polled but carry one horned gene. They may sire calves with horns when mated to cows that also carry the horned gene.

Double Polled- These bulls are young, unproven sires whose parents are both polled.

Homozygous Black- These bulls have a 99.9% probability of producing all black calves when mated to non-diluted red and black cows.

Heterozygous Black- These sires are black, but carry one red gene. You can expect 50% black calves when the bull is mated to non-diluted red cows.

Dilution Gene- Cattle carrying the dilution gene will be gray, red or yellow. Non-dilutor cattle will appear black or darker red.

GeneSTAR:

Genestar Marbling is a DNA diagnostic test for a major gene associated with marbling. The absence or presence of this gene does not mean an animal will or will not marble. The presence of the gene indicates where a portion of the marbling is attributed. Estimates indicate several

genes control marbling.

\$Value Search (\$W, \$F, \$G, \$B)

Wean Value (\$W), Feedlot Value (\$F), Grid Value (\$G) and Beef Value (\$B) are bioeconomic index values, expressed in dollars per head, to assist commercial beef producers by adding simplicity to genetic selection decisions. The \$Value is an estimate of how future progeny of each sire are expected to perform, on average, compared to progeny of other sires in the database, if randomly mated and the calves are exposed to the same environment.

TH and PHA - The Facts

- TH and PHA are two distinct genetic conditions
- TH and PHA are the result of two different genes that are abnormal
- TH and PHA are both considered autosomal recessive
- Cattle with TH trace to Shorthorn breeding
- Cattle with PHA trace to Maine-Anjou breeding
- An animal with both Shorthorn and Maine influence can be a carrier of both, neither or one of the abnormalities
- A calf born with TH or PHA received one abnormal gene from each of its parents
- The sire and dam of a calf born with TH are both carriers for TH
- The sire and dam of a calf born with PHA are both carriers for PHA
- There is a genetic test for TH - it can tell you if your animal is normal (not a carrier for TH; TH free) or a carrier for TH (TH carrier)
- There is not yet a genetic test for PHA, but we know the parents of a PHA calf are carriers of the defective gene

TH Gene:

TH is a disorder of multiple congenital defects seen in calves. Translated, the name refers to absence of all or part of the tibia (tibial = the bone between the knee and ankle in humans or the stifle and hock in cattle and hemimelia = absence of all or part of a limb). But TH encompasses more defects than the name implies. TH is lethal, as the calf may be born dead, but if not dead the condition is incompatible with life. These calves have large abdominal hernias (weakening of the abdominal muscles that allows intestinal contents to bulge out), twisted legs sometimes with absent or deformed bones. They may be cryptorchid (undescended testicles), have a meningocele (defect in the skull with tissue coming out) and a long shaggy hair coat.

PHA Gene:

PHA (pulmonary hypoplasia with anasarca). Translated, that means little, poorly formed lungs (pulmonary hypoplasia) and lots of excess, retained fluid (anasarca). This is also a lethal defect and the calves are usually born dead. Calves may also be aborted early. The anasarca is a major problem. Calves can retain so much fluid that an 80 pound calf can weigh 200 pounds! PHA often causes dystocia and may require a C-section. In PHA, like TH, the defective gene is recessive, meaning both parents appear normal (phenotype) but both parents carry the defective recessive gene (genotype). If you have a cow that has a PHA calf, you know both the sire and dam are carriers of the defective gene.

Testing For TH / PHA:

Testing for both genetic defects are conducted by AgriGenomics, Inc., 2399 N 1000 E Road, Mansfield, IL 61854