

Understanding Sire Summaries

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Selecting a herd bull is one of the most important decisions a producer has to make. The decision of selecting what bull to mate to each cow or heifer has long lasting genetics effects in the herd. Sire summaries have been developed to aid a producer in this decision. Sire summaries are updated on a regular basis and provide information on traits that are economically important to cattle producers. The producer needs to decide which traits are important to

their farming operation.

Expected Progeny Differences (EPDs) are numbers that predict the genetic quality of future offspring or progeny of a particular bull, cow or heifer. The EPD is the degree of difference between the progeny of the bull and the progeny of the average bull of the breed in the trait being measured. The EPD is given as a plus or minus value. For example, an EPD for yearling weight of +65 would show that the progeny of this bull should average 65 pounds more at 365-days of age than progeny of the average bull of the breed at the same base year.

EPDs are a prediction based on averages for that breed; keep in mind, bulls with high EPDs for selected traits will produce some calves that are not better than the average for the breed. On the other hand,

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bulls with low EPDs for selected traits will sire some calves better than the breed average. However, the overall performance of the progeny of low EPD bulls will be lower than the breed average.

It used to be that you could not compare EPDs across breeds. This was partly due to the differences in selection emphasis between breeds. However, in recent years the US Meat Animal Research Center (USMARC) has started calculating across breed adjustment factors. They are currently calculating these adjustment factors for 18 breeds for growth and carcass traits including: birth weight, weaning weight, yearling weight, maternal milk, marbling score, ribeye area, and fat thickness. These factors can be used to adjust the EPD to a common Angus base. USMARC updates these adjustment values on an annual basis to account for genetic change that has occurred. A current list of adjustment factors can be found at: <https://www.angus.org/Nce/AcrossBreedEpdAdjFactors.aspx>.

If you want to compare a Hereford bull's EPD for birth weight to an Angus bull's EPD for birth weight you would need to use 2.3 as the adjustment factor. If the Hereford bull had a birthweight EPD of 5.3 then on an Angus base the birth weight would be 7.6. Oklahoma State University has created an online calculator to make this across breed comparison easier:

<http://itle.okstate.edu/sites/beefcalc/>.



Things to remember about EPDs

1. Do not compare EPDs from old sire summaries with new sire summaries. Due to the addition of new progeny data, EPDs change with each sire summary.
2. Remember EPDs are an average, not a guarantee. Progeny can individually perform better or worse than the average, but all progeny together perform at the average.
3. Keep in mind that not all breeds use the same abbreviations, so you may find some that are not listed below or you may not find some that are listed.
4. Don't just select your bull based on one trait. Selecting on one trait can leave your herd inferior in other traits. For example, if you only select for high yearling weight, you could end up with low calving ease scores, since larger yearling weight is positively correlated with higher birthing weight.

The traits listed in sire summaries vary slightly among breeds; however, they all evaluate the ability of a sire to transmit growth rate to his progeny in the areas of birth, weaning and yearling weights. Most breeds also evaluate the performance of daughters of the sire. This includes an evaluation of daughter calving ease and/or the ability of daughters to wean heavy calves. In sire summaries the average EPD of the breed is converted to zero, so the EPD value reported reflects the number of points above or below the breed average.

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Trait abbreviations and meanings that are commonly reported on most EPD tables are as follows:

- **CED: Direct calving ease** – A higher number is better. This number predicts the percentage of unassisted calvings from heifers mated to the bull compared to the heifers mated to the average bull of the breed.
- **BW: Birth Weight** – Negative numbers are okay. This number predicts performance of the sire's calves for actual birth weight compared to the calves sired from the average bull of the breed.
- **WW: Weaning Weight** - Larger positive values are good. This value predicts performance of the sire's calves for actual weaning weight compared to the calves sired from the average bull of the breed.
- **YW: Yearling Weight** - Larger positive values are good. This value predicts performance of the sire's calves for actual yearling weight compared to the calves sired from the average bull of the breed.
- **MCE: Maternal Calving Ease** – You want a positive number. This value predicts percentage of unassisted calvings of this bull's heifer daughters compared to the heifer daughters of the average bull of the breed.
- **MILK (MM): Maternal Milk**– You want this value to be positive. This value predicts weaning weight of the bull's grand-calves due to milk production of the bull's daughters compared to daughters of the average bull of the breed.
- **MWW** – Predicted weaning weight of the bull's grand-calves due to milk production of the bull's daughters plus genes for weaning weight of the calves compared to the average bull of the breed. This is also known in some breed books as total maternal (TM). It is calculated as a combination of the WW score and the MILK score.
- **DOC: Docility** – Positive numbers are good if you want tame animals. This value is a prediction of the animal's temperament, nervousness and flightiness when handled compared to calves of the average bull of the breed.
- **STAY: Stayability** – You want this number to be positive. This value predicts the probability that this sire's daughters will stay in the herd until six years of age compared to the average bull of the breed.
- **CW: Carcass weight** – You want this number to be positive. This value predicts performance of the bull's calves for carcass weight compared to the calves of the average bull of the breed.
- **YG: Yield grade** – You want this number to be positive. This value predicts performance of the bull's calves for yield grade compared to the calves of the average bull of the breed.
- **MARB: Marbling** – You want this number to be positive. This value predicts performance of the bull's calves for marbling compared to the calves of the average bull of the breed.
- **BF: Backfat** – You want this number to be positive. This value predicts performance of the bull's calves for back fat compared to the calves of the average bull of the breed.

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- **REA: Ribeye area** – You want this number to be positive. This value predicts performance of the bull's calves for Ribeye area compared to the calves of the average bull of the breed.
- **SHR: Shear score** – This value predicts performance of the bull's calves for shear score compared to the calves of the average bull of the breed. Shear force is the pounds of force required to shear a steak.
- **ACC: Accuracy** – This is the accuracy of the given EPD. Accuracy is the measure of how much the EPD value might change as additional progeny data become available. Sires with more calves in several different herds will have higher accuracy figures. The higher the accuracy value, the less risk there is to an EPD value changing as additional data are included. Accuracy range is from 0.0 to 1.0 or on a percentage basis.

Reference:

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