

THE ANALYSIS OF EPDs

Data reported by individual Breeders to the American Murray Grey Association (AMGA) will be forwarded to Agricultural Business Research Institute (ABRI) for analysis. Breeders will receive reports on their individual herds and an annual report for the United States. These two reports will be in EPDs (Expected Progeny Differences). An annual International Report will be done which will include United States, Canada, New Zealand and Australia, which will be in EBVs (Estimated Breeding values.) The major difference between EPDs and EBVs is that EPDs are in pounds and inches while EBVs are in kilograms and centimeters.

Since our individual and US reports are being published in EPDs we will use this term in explaining what Breedplan will be supplying us as breeders of Murray Grey Cattle.

Breedplan uses all available information for individual animals as well as its progeny and close relatives. They also take into account the influence of management, environmental effects and non-genetic effects. They do not provide absolute values of performance. These estimations allows us to compare expected progeny performance of different animals. The more information we as breeders provide the more accuracy we will have on our animals.

There are 7 economically important traits that will be included in our reports by Breedplan. EPDs used in conjunction with assessment for structural soundness, fertility, mature size and muscling will help take a lot of guesswork out of cattle breeding.

EPD Traits To Be Reported:

- (CE) Calving Ease EPDs: are based on calving ease (CE) scores, birth weights and gestation length information. More positive EPDs are favorable and indicate easier calving. This means that a bull that is +5 for calving ease is predicted to have five percent more of his calves born unassisted than a bull with a calving ease EPD of zero.
- (BWT) Birth weight EPD: based on the measured birth weight of animal adjusted for age of dam are: The lower the value the lighter the calf at birth and the lower the likelihood of a difficult birth. This is particularly important when selecting sires for use over heifers.
- (SS) Scrotal Size EPD: calculated from the circumference of the scrotum, measured in centimeters and adjusted to 400 days of age. This EPD is an indicator of male fertility in regards to semen quality and quantity. Higher (positive) EPDs indicate higher fertility. Scrotal size is also positively associated with earlier age at puberty of bull and heifer progeny.

- (MILK) 205 Day Milk EPD: is an estimate of an animal's milking ability. For sires this EPD indicates the effect of their daughter's milking ability on the 205 day weight of their calves. The higher (positive) the EPD for bulls the better his daughters are expected to milk. To improve milk in your female herd, select bulls with well above the current breed average EPD and with high accuracy. An animal's 205 Day Milk EPD is usually less accurate than its growth EPDs because of the lower heritability of the trait and the time lag before the performance of the daughter's calves becomes available.
- (205) 205 Day Growth EPD: (**Weaning Weight**) is an estimate of the animals genetic potential to produce growth from birth to weaning. It does not indicate milk. The offspring of a bull with a +10 is expected to weigh on an average, 8 pounds more at 205 days than the offspring of a bull with an EPD of +2 This weight is taken between 180 and 300 days of age and adjusted to 205 days. The dams age is also taken into consideration.
- (365) 365 Day Weight EPD: (**Yearling Weight**) is an estimate of the genetic potential to produce growth from birth to 365 days. A bull with a EPD of +25 is expected to produce progeny that weigh on average 20 pounds more than a bull that has an EPD value of +5. This weight is taken between 301 and 500 days of age and adjusted to 365 days. The dams age is also taken into consideration. This EPD is the best single estimate of an animal's genetic merit for yearling weight.
- (600) 600 Day Weight EPD: (**Mature Weight**) is calculated from weight of progeny taken 501 and 900 days and adjusted to 600 days. Dams age is also taken into consideration. This EPD is the best single estimate an animals genetic merit for growth beyond yearling age.