

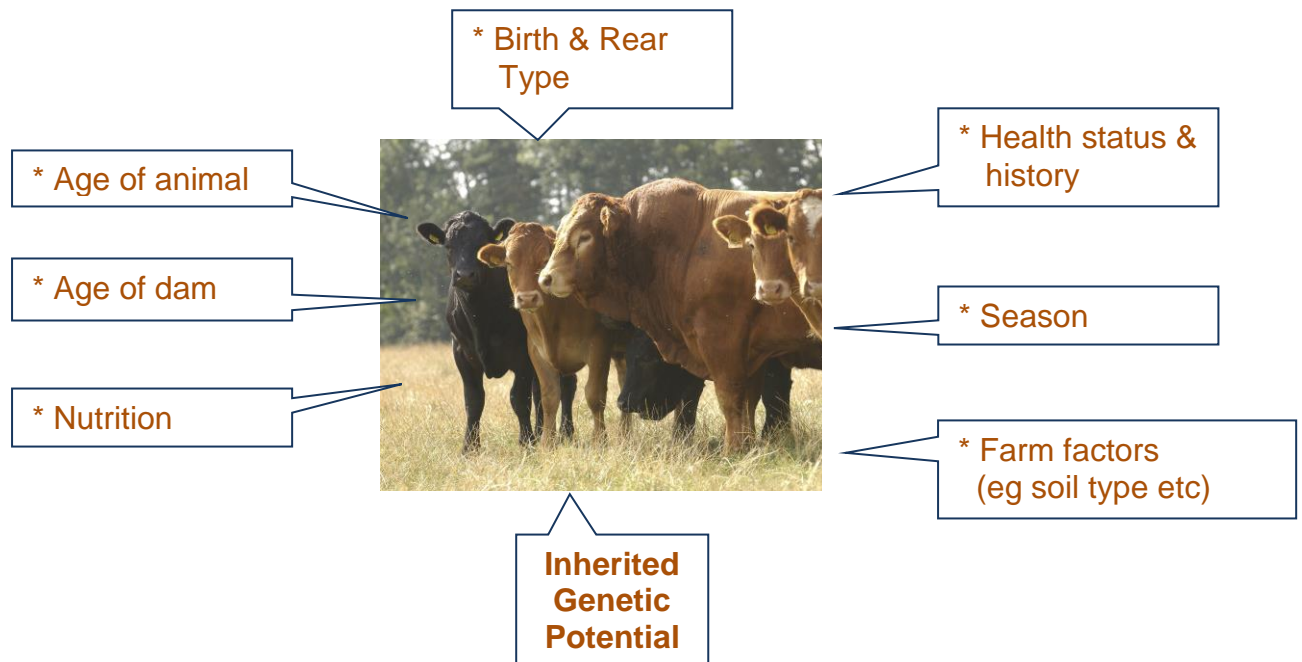


## LIMOUSIN PERFORMANCE RECORDING

### Estimated Breeding Values (EBVs)

The pedigree and performance data collected on-farm is analysed using a procedure called BLUP (Best Linear Unbiased Predictor).

This calculates how much of each animal's performance is due to genetics and how much is due to its environment.



\* collectively known as 'environmental effects'

All these factors above will affect an animal's performance and how it looks, but the **inherited genetic potential** is the only part that it can pass on to its progeny. This is expressed as an Estimated Breeding Value or EBV for each trait we measure.

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**A range of Estimated Breeding Values are currently available for both terminal sire and maternal traits...**

<b>EBV</b>	<b>Interpretation</b>	<b>Notes</b>
<b>TERMINAL SIRE EBVs</b> relate to an animal's performance as a terminal sire (when applied to a female, they indicate how her bull calves are likely to perform as sires)		
Birthweight (kg)	Negative Values = Lighter calves at birth	High birth weights are more likely to be associated with difficult calvings
Gestation Length (days)	Negative Values = Shorter gestations	Short gestation lengths result in easier calvings, because birthweights tend to be lower. A short gestation also increases the interval between calving and the start of mating, giving the cow more time to recover body condition.
Calving Ease (Direct) (%)	Positive Values = More unassisted calvings	Estimates the percentage of unassisted calvings that can be derived from a particular sire.
200-Day Growth (kg)	Positive Values = Faster growth rates	Selection for faster growth will result in animals that have heavier carcasses at a constant fat class or leaner carcasses at a constant age.
400-Day Growth (kg)	Positive Values = Faster growth rates	Selection for high growth rates also tends to result in an overall increase in mature size (and therefore higher birthweights).
Muscle Depth (mm)	Positive Values = Deeper loin Muscles	Selecting for these traits will increase the yield of lean meat in the carcase.
Backfat Depth (mm)	Negative Values = Leaner carcasses	Indicates animals capable of producing lean carcasses or, if required, can be taken to heavier carcase weights without becoming overfat.
Docility (%)	Positive Values = more docile cattle when handled	Indicates the proportion of calves that are likely to be more docile when handled (NB it is no indicator of maternal aggression at calving time)
Scrotal Circumference (cm)	Positive Values = greater scrotal size	Larger scrotal size is associated with male fertility and early puberty of daughters.
<b>MATERNAL EBVs</b> relate to an animal's maternal performance. When applied to a male, they indicate how his daughters will perform as mothers.		
Longevity (days)	Positive Values = Longer breeding life	Predicts the length of an animal's breeding life in the herd
Age at 1 <sup>st</sup> Calving (days)	Negative Values = Puberty reached at an early age	Herds looking to calve heifers at two years of age should identify bulls with superior (negative) EBVs for this trait. This will increase conception rates at first mating.
Calving Interval (days)	Negative Values = Cows that get back in calf more quickly	This EBV can be used to breed cows with short calving intervals that get in calf again quickly
200-Day Milk (kg)	Positive Values = More productive female replacements	This EBV is the maternal component of 200Day Weight. It indicates how well a bull's heifer calves will perform when they become mothers and is greatly influenced by milking ability
Maternal Calving Ease (%)	Positive Values = More unassisted calvings	Identifies females that will calve more easily. Should not be confused with Calving Ease Direct (see above), which is an EBV predicting how easily born a bull's progeny will be.

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