

# Understanding Birth Weight EBVs



## TIP SHEET

Calving difficulty has an obvious negative impact on the profitability of a herd through increased calf, heifer and cow mortality, slower re-breeding performance and considerable additional labour and veterinary expense.

Many large studies have shown that the level of calving difficulty in a herd is influenced by many environmental factors and several genetic factors. These genetic factors include such things as calf birth weight, calf shape, dam pelvic size and dam calving “will”. Of these, calf birth weight is by far the most important factor.

An analysis of over 186,000 animals on a major Breed Society database illustrated the importance of calf weight as a determinant of calving difficulty.

Calving Difficulty Score	Description	Average Birth Weight
1	No assistance	39.4 kg
2	Moderate assistance	41.3 kg
3 - 4	Traction/Veterinary assistance	45.1 kg

While this may be a crude analysis in scientific terms, it sends a clear message that an increase in calf weight will lead to an increase in the risk of calving difficulty.

### INTERPRETING BIRTH WEIGHT EBVs

Birth Weight EBVs are estimates of genetic differences between animals in calf birth weight. Birth Weight EBVs are expressed in kilograms (kg).

Small or moderate Birth Weight EBVs are more favourable. For example, a bull with a Birth Weight EBV of +2 kg would be expected to produce lighter calves at birth, with a lower risk of a difficult birth, than a bull with a Birth Weight EBV of +6 kg.

Please note, whilst low Birth Weight EBVs are favoured for calving ease, they are also generally associated with lower overall growth potential. This has three major consequences:

- Lower birth weight sires may cause fewer calving difficulties, but they will also tend to produce calves with poorer growth to target market endpoints.
- The female progeny from lower birth weight sires will tend to grow into smaller heifers who themselves may have increased calving difficulty as two year olds.
- In some breeds it has also been noted a that lower birth weight can cause calf mortality due to calves lacking in vigour.

As a result, birth weight and growth need to be carefully balanced. Fortunately, animals can be found that have both moderate Birth Weight EBVs and above average EBVs for later growth. Such animals are commonly termed ‘curve-benders’ by industry.

**For more information regarding Birth Weight EBVs please contact staff at your BREEDPLAN processing centre.**

