

Southern African Brahman Selection Indexes: Technical Specifications



Three selection indexes are currently reported for the Brahman Cattle Breeders Society of Namibia, the Brahman Cattle Breeders' Society of South Africa and Brahman breeders recording with the Zimbabwe Herd Book. These are the:

- Rangeland Grazing Index
- Wean Index
- Feedlot Index

All of the selection indexes described above have been derived using [BreedObject](#) software. The BreedObject selection index development process involves four major steps. These steps are:

1. A detailed description of the input costs and value generation of the commercial herd and target production system.
2. Once the target production system is described, the BreedObject software evaluates how each trait influences profitability and the economic value of improving each trait.
3. The BreedObject software then assesses what emphasis needs to be applied to each Estimated Breeding Value (EBV) trait to achieve the maximum profitability in the production system and for the market end point for which that index was designed. This step includes evaluating the selection response expected from direct selection on the individual EBVs and the correlated responses expected from selection on related EBVs.
4. The importance placed on each EBV results in the selection index value that is calculated for each animal.

Each selection index describes a different production system/market scenario and relates to a typical commercial herd using Brahman bulls. As is the case for EBVs, each selection index can be used to rank and compare animals on their genetic merit. Producers are advised to use the selection index that most closely aligns to their production system. See the [Using Southern African Brahman Selection Indexes](#) tip sheet, available in the [Help Centre](#) on the BREEDPLAN website, for further information on the identification and utilisation of the most applicable selection index for your herd.

All selection indexes are reported in units of net profitability per cow mated (R) for the production system/market scenario they describe. Selection indexes account for both sides of the profit equation (costs as well as income), and also reflect the relative short and long term profit associated with possible selection decisions. For example, short term profit can be generated by a bull through the sale of his progeny, and the longer term profit generated by his daughters in a self-replacing cow herd.

Each of the selection indexes are focused on efficient beef production while also targeting the following specifications:

Rangeland Grazing Index - Estimates the genetic differences between animals in net profitability per cow joined for an example commercial herd targeting steers for export markets. Steers are assumed to be pasture grown & finished at around 500 kg live weight or 250 kg carcass weight at 30 months. The index also has moderate emphasis on calving ease and maternal traits. Replacement cows are generally sourced from within the herd and daughters are largely retained in the industry for breeding. The index is also suited to using Brahman sires over mixed breed cows.

Wean Index - Estimates the genetic differences between animals in net profitability per cow joined for an example self-replacing commercial herd producing weaners for sale at about 7 months of age off pasture. The index has emphasis on calving ease and maternal traits while acknowledging that these animals will be grown on to be finished and slaughtered at an older age. This index is suited to select sires and dams where more emphasis on cow traits is required. However, you are strongly encouraged to consider selecting replacement animals using both the Wean Index as well as a later finishing index (Rangeland or Feedlot) at the same time.

Feedlot Index - Estimates the genetic differences between animals in net profitability per female joined for an example self-replacing commercial herd targeting steers to turn off at 12 months of age. There is some emphasis on calving ease and maternal traits while finishing steers at around 400 kg live weight (230 kg carcass weight) after 120 days on feed. This index is also suitable to using Brahman sires over mixed breed cows.

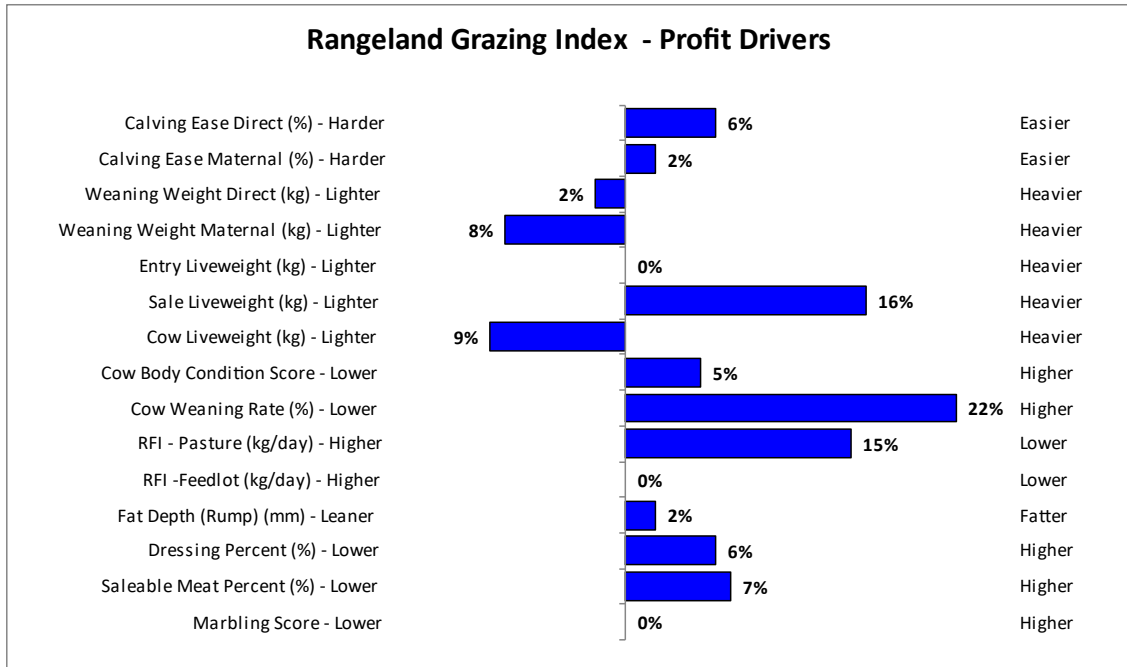
More detailed information regarding each selection index is provided on the following pages.

If you have any further queries regarding the Southern African Brahman Selection Indexes, please do not hesitate to contact staff at your BREEDPLAN processing centre.

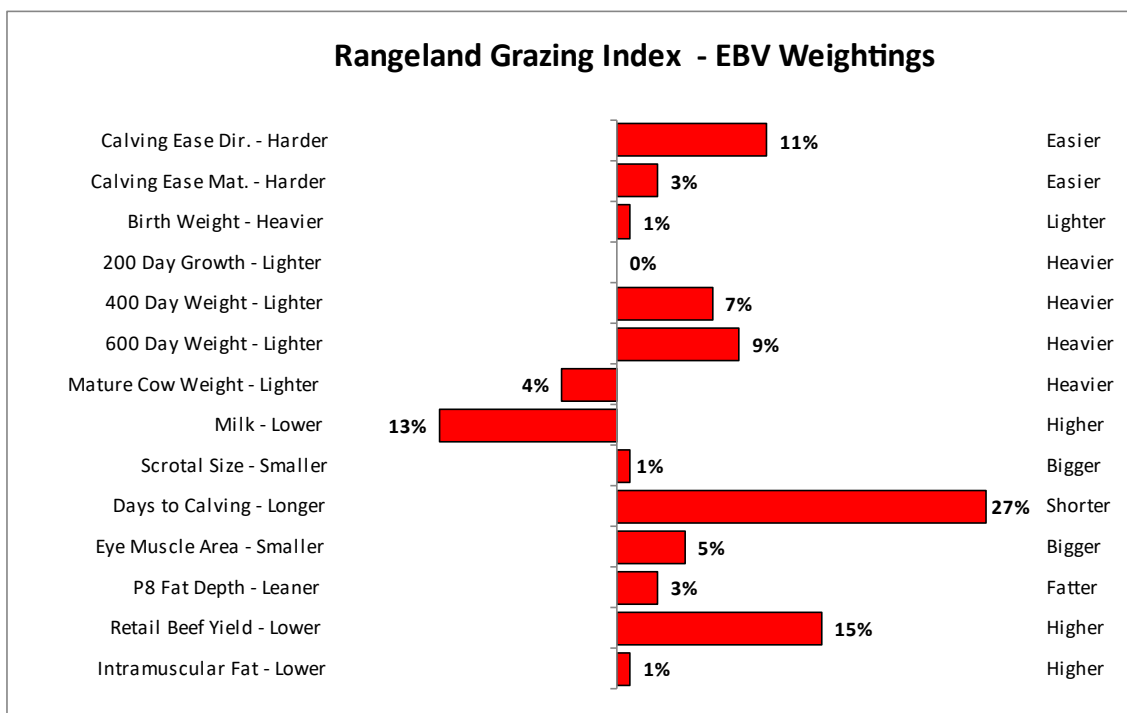


Rangeland Grazing Index

The following bar graph shows the **key economic traits**, as determined by the BreedObject software, that are important in this selection index. The different trait emphases reflect the **underlying profit drivers in a commercial operation** targeting the described production system/market.

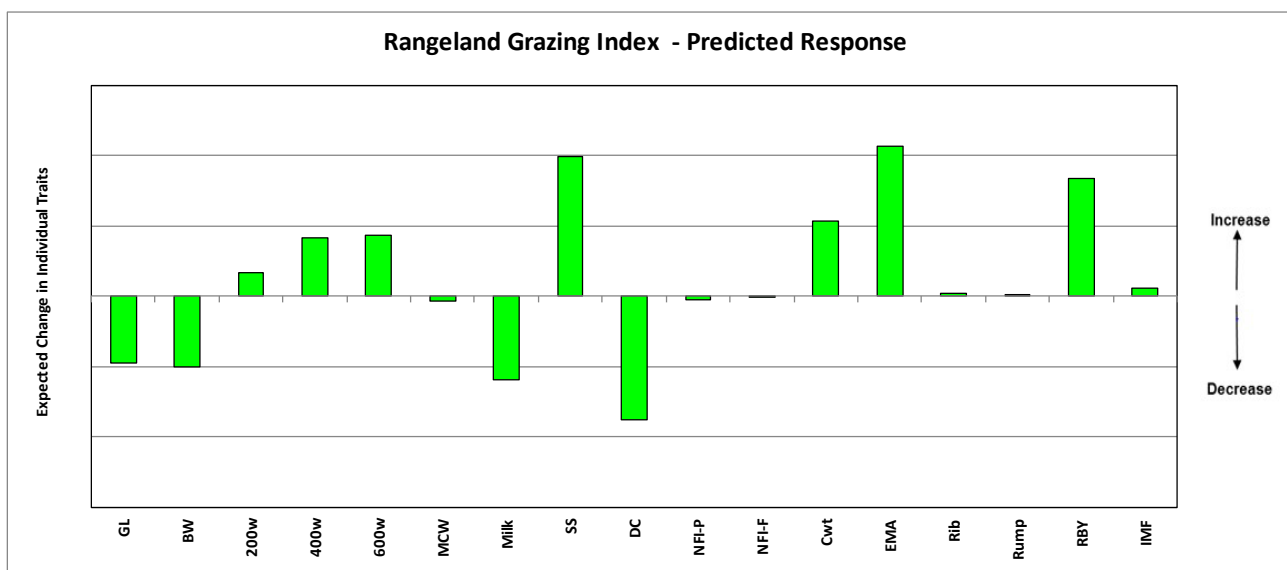


The bar graph below illustrates the magnitude and direction of emphasis that has been placed on each **BREEDPLAN EBV** within this selection index. These weightings represent the **most profitable combination of EBVs**, as determined by the BreedObject software, for the described production system/market.



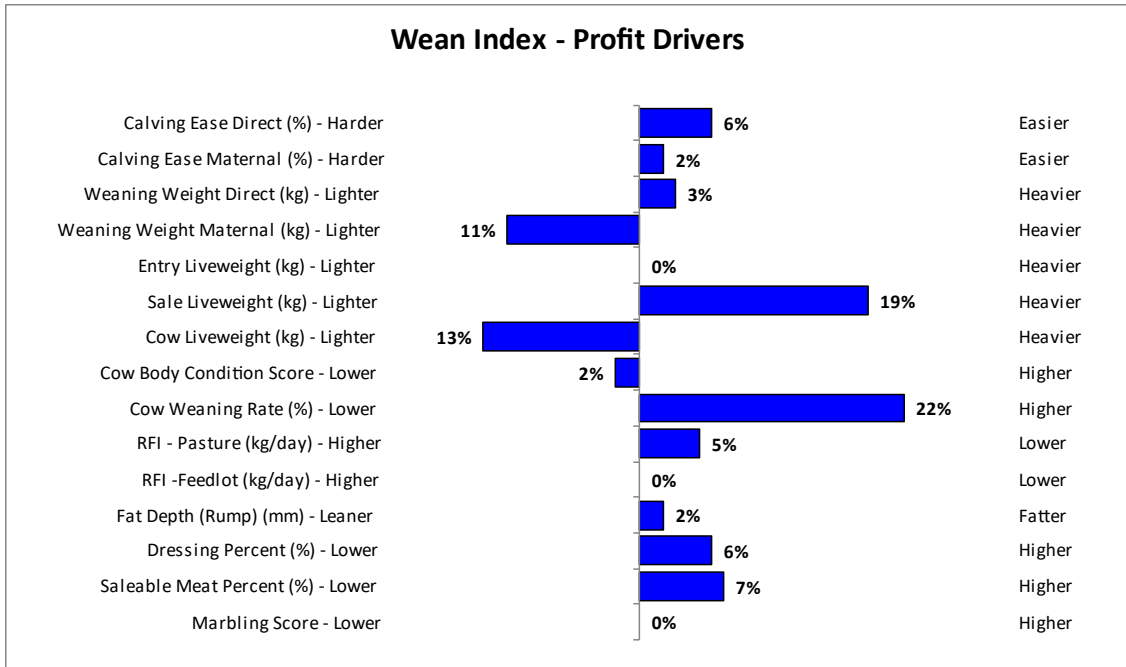
While the graphs on the previous page show the emphasis that has been placed on the production traits and each EBV within the Rangeland Grazing Index, they do not reflect the expected change that will occur to each individual EBV if producers select animals using this selection index. The selection response will also be influenced by factors such as the genetic relationship between traits and the animals that are available for selection. For example, while there is no weighting on 200 Day Weight in this selection index, it would be expected that growth to 200 days would typically increase due to the positive weighting on both 400 & 600 Day Weights, and the strong genetic correlation between these traits.

The following bar graph provides an indication of the **relative change** that would be expected in each individual BREEDPLAN EBV if producers select animals using the Rangeland Grazing Index. The graph reflects the relative change if the South African and Namibian Brahman Published Sires in 2024 were ranked on this selection index and the Top 10% **selected for use within a breeding program**. The response to selection may differ if a different group of animals were available for selection.

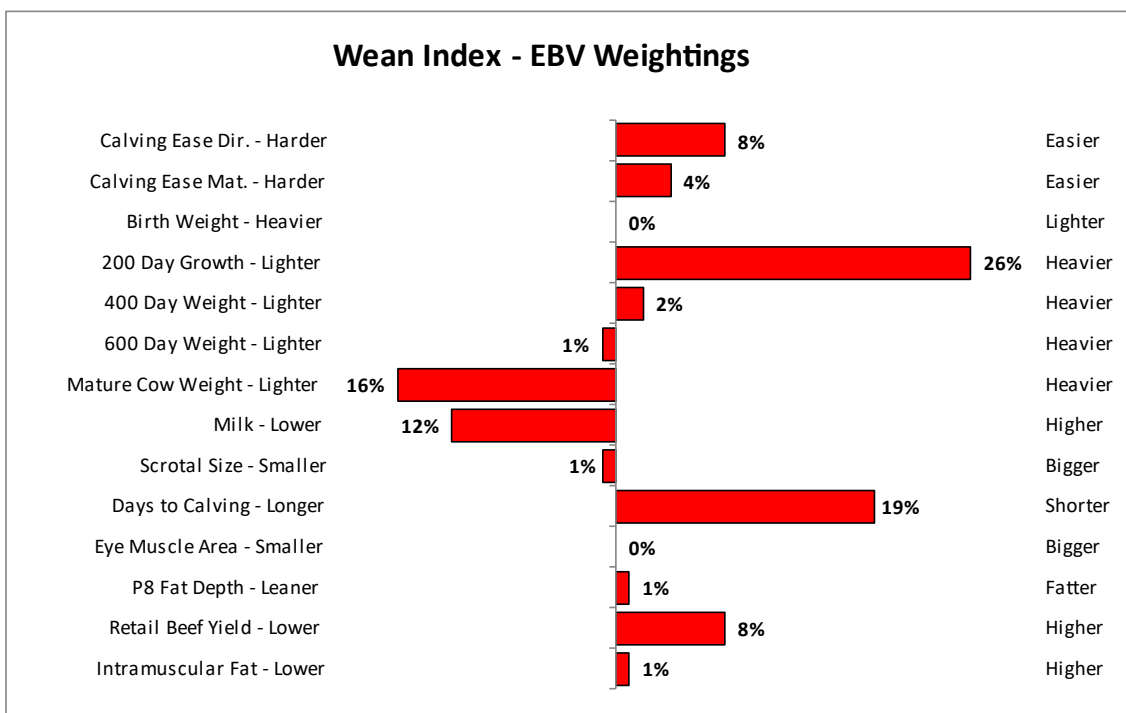


Wean Index

The following bar graph shows the **key economic traits**, as determined by the BreedObject software, that are important in this selection index. The different trait emphases reflect the **underlying profit drivers in a commercial operation** targeting the described production system/market.

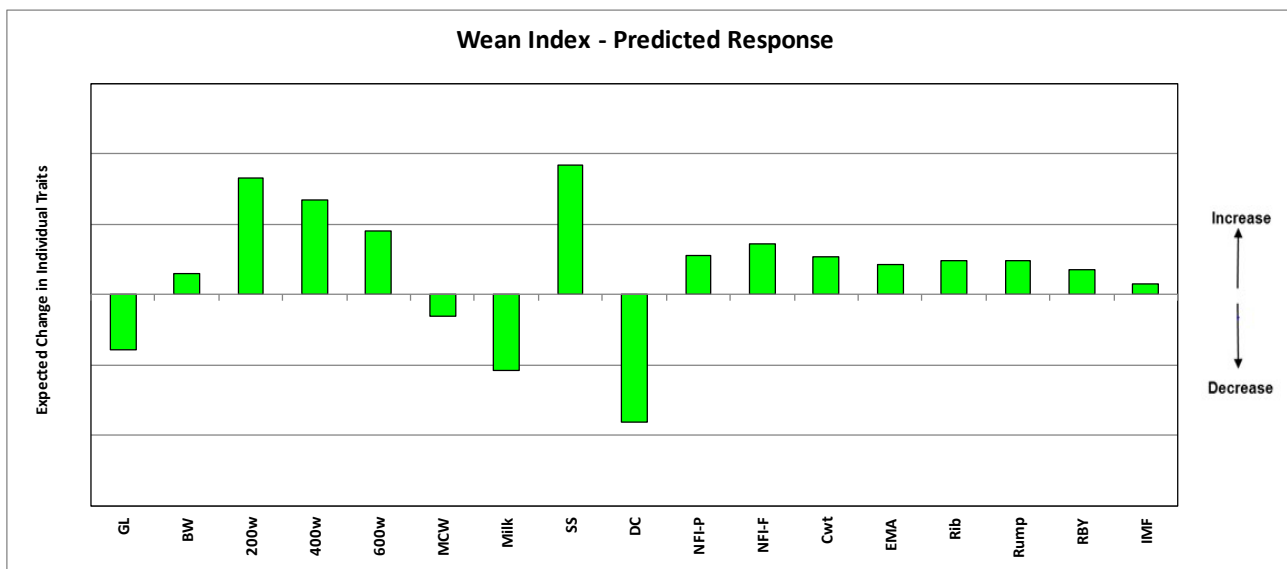


The bar graph below illustrates the magnitude and direction of emphasis that has been placed on each **BREEDPLAN EBV** within this selection index. These weightings represent the **most profitable combination of EBVs**, as determined by the BreedObject software, for the described production system/market.



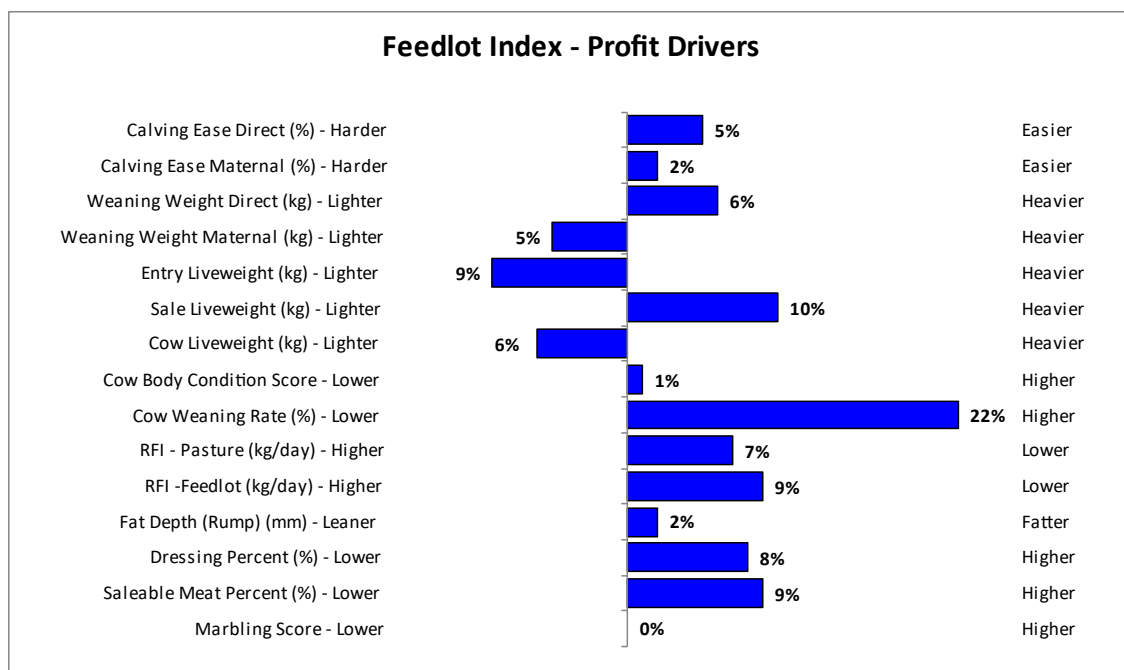
While the graphs on the previous page show the emphasis that has been placed on the production traits and each EBV within the Wean Index, they do not reflect the expected change that will occur to each individual EBV if producers select animals using this selection index. The selection response will also be influenced by factors such as the genetic relationship between traits and the animals that are available for selection. For example, while there is a negative weighting on 600 Day Weight in this selection index, it would be expected that growth to 600 days would typically increase due to the large positive weighting on 200 Day Weight, and the strong genetic correlation between the two traits.

The following bar graph provides an indication of the **relative change** that would be expected in each individual BREEDPLAN EBV if producers select animals using the Wean Index. The graph reflects the relative change if the South African and Namibian Brahman Published Sires in 2024 were ranked on this selection index and the Top 10% **selected for use within a breeding program**. The response to selection may differ if a different group of animals were available for selection.

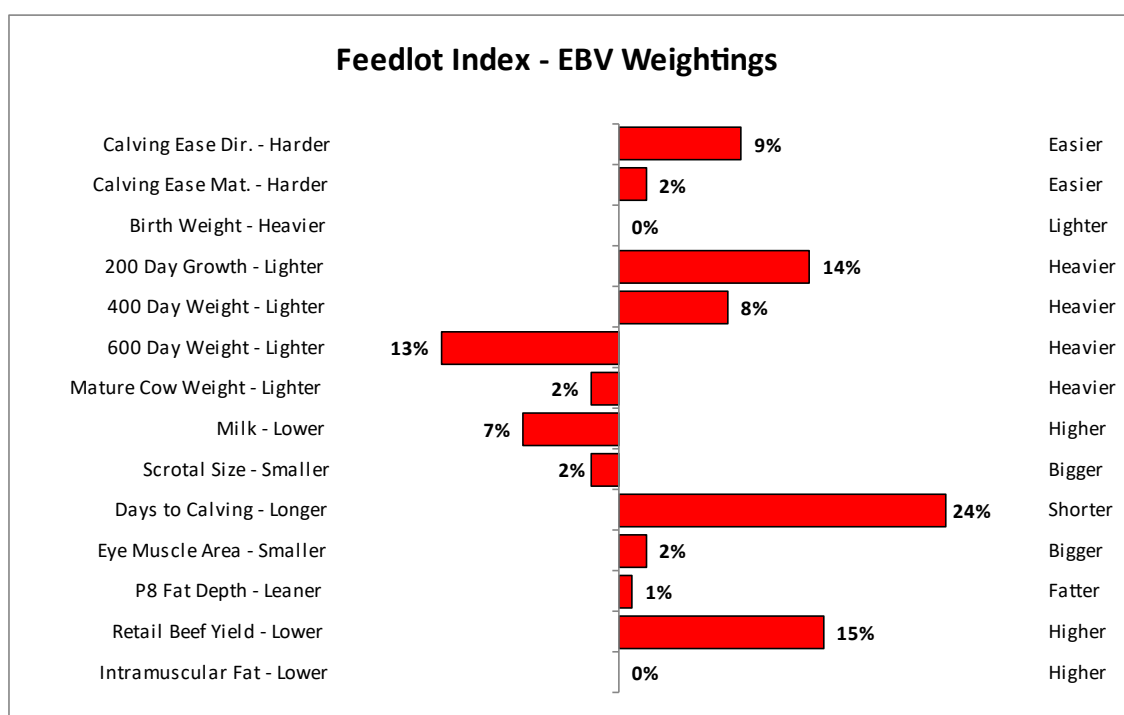


Feedlot Index

The following bar graph shows the **key economic traits**, as determined by the BreedObject software, that are important in this selection index. The different trait emphases reflect the **underlying profit drivers in a commercial operation** targeting the described production system/market.



The bar graph below illustrates the magnitude and direction of emphasis that has been placed on each **BREEDPLAN EBV** within this selection index. These weightings represent the **most profitable combination of EBVs**, as determined by the BreedObject software, for the described production system/market.



While the graphs on the previous page show the emphasis that has been placed on the production traits and each EBV within the Feedlot Index, they do not reflect the expected change that will occur to each individual EBV if producers select animals using this selection index. The selection response will also be influenced by factors such as the genetic relationship between traits and the animals that are available for selection. For example, while there is a negative weighting on 600 Day Weight in this selection index, it would be expected that growth to 600 days would typically increase due to the large positive weightings on 200 and 400 Day Weights, and the strong genetic correlation between these traits.

The following bar graph provides an indication of the **relative change** that would be expected in each individual BREEDPLAN EBV if producers select animals using the Feedlot Index. The graph reflects the relative change if the South African and Namibian Brahman Published Sires in 2024 were ranked on this selection index and the Top 10% **selected for use within a breeding program**. The response to selection may differ if a different group of animals were available for selection.

