

## ***South African Simmentaler Selection Indexes***

There are three standard selection indexes calculated for South African Simmentaler animals. These are:

- ❑ Self Replacing Feedlot Index
- ❑ Self Replacing Grass Fed Index
- ❑ Terminal Sire Index

Each selection index has been developed for a different production/market scenario

**Self Replacing Feedlot Index** – The Self Replacing Feedlot Index estimates the genetic differences between animals in net profitability per cow joined for an example purebred self-replacing (keeping replacement and breeding progeny) herd with emphasis on high fertility. Calves are weaned at 7 months (at around 250kg) and then steers are fed extra rations for 120 days to be slaughtered at around 11 months and 430kg steer live weight. Significant emphasis is placed on calving ease, 400 day weight and carcass yield.

**Self Replacing Grass Fed Index** – The Self Replacing Grass Fed Index estimates the genetic differences between animals in net profitability per cow joined for an example purebred self-replacing herd. Calves are weaned at 7 months and then finished off on grass with little extra rations. Steers are slaughtered at around 11 months and 430 kg steer live weight. Significant emphasis is placed on calving ease, 400 day weight, days to calving and carcass yield.

**Terminal Sire Index** – The Terminal Sire Index estimates the genetic differences between animals in net profitability per cow joined for an example commercial crossbred herd where no animals are kept for replacement or breeding purposes. Mating is based on terminal sires used over moderate weight Bos Indicus/British type cows. Calves are weaned at 7 months (at around 250kg) and then fed extra rations for 120 days to be slaughtered at around 11 months and 430 kg steer live weight. Significant emphasis is placed on calving ease, 400 day weight, and carcass yield.

All selection indexes are reported as an EBV, in units of net profit per cow mated (Rand) for a given production/market scenario. They reflect both the short term profit generated by a sire through the sale of his progeny, and the longer term profit generated by his daughters in a self replacing cow herd (where applicable).

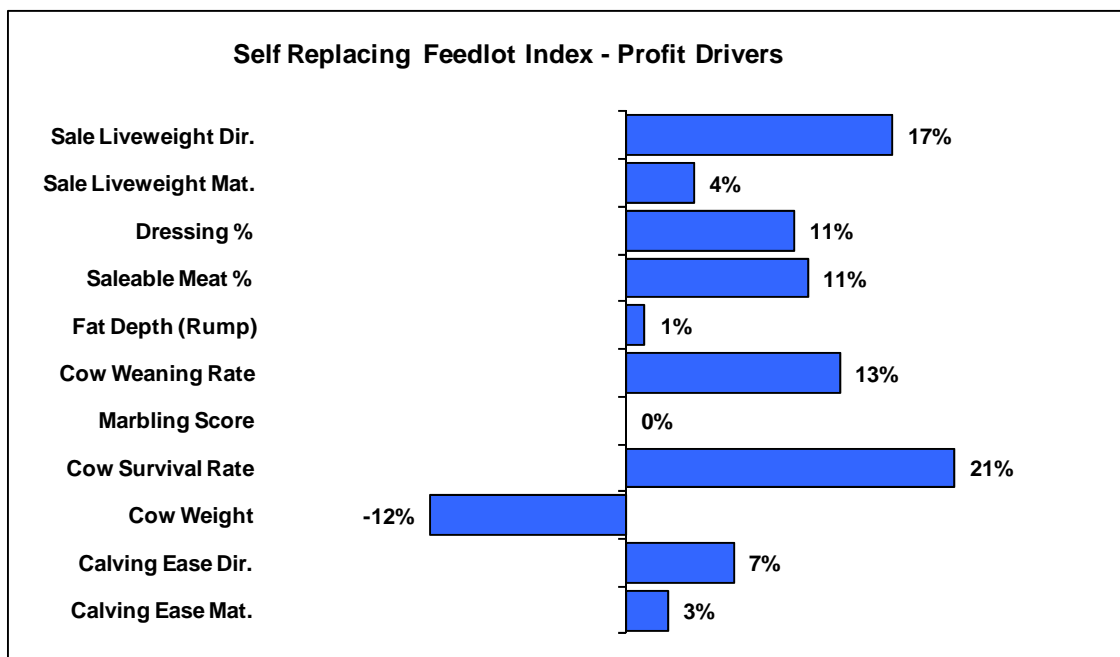
All selection index values have been derived using BreedObject technology. More detailed information regarding each selection index is provided on the following pages.

*If you have any further queries regarding South African Simmentaler Selection Indexes, please do not hesitate to contact staff at the Simmentaler Cattle Breeders Society.*

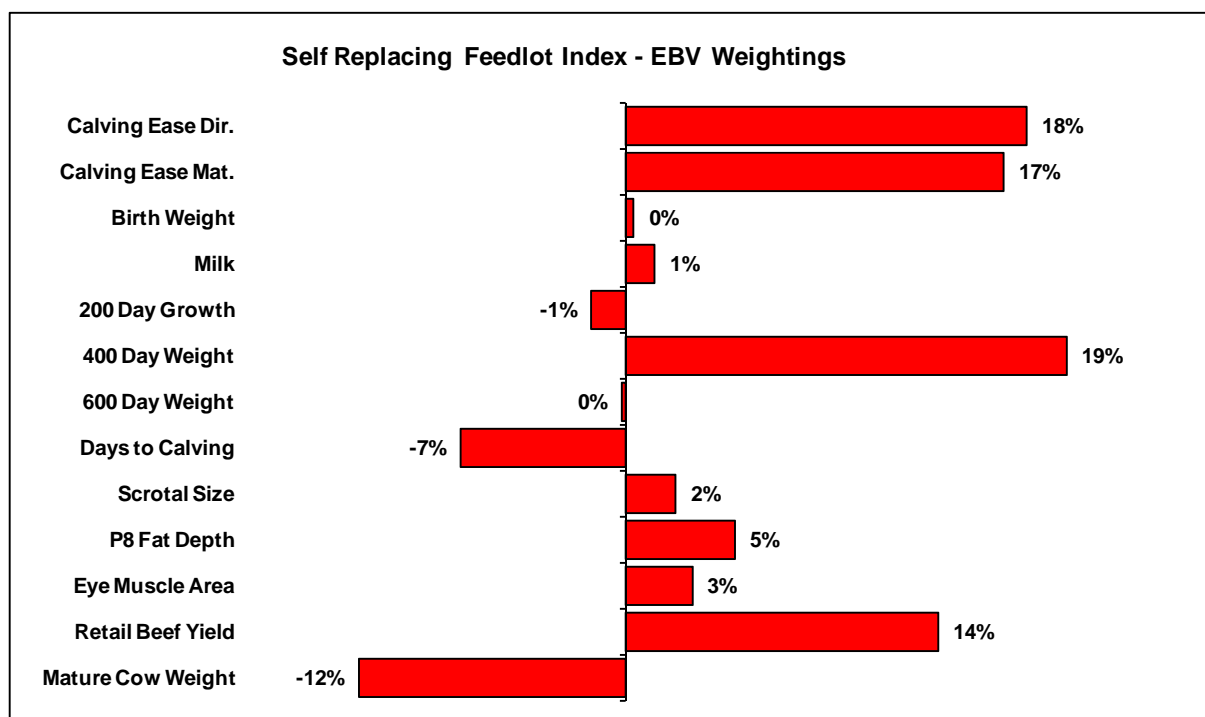
## ***Simmentaler Self Replacing Feedlot Index***

The Self Replacing Feedlot Index estimates the genetic differences between animals in net profitability per cow joined for an example purebred self-replacing (keeping replacement and breeding progeny) herd with emphasis on high fertility. Calves are weaned at 7 months (at around 250kg) and then steers are fed extra rations for 120 days to be slaughtered at around 11 months and 430kg steer live weight. Significant emphasis is placed on calving ease, 400 day weight and carcass yield.

The following bar graph shows the key economic traits that are important in this selection index. The different trait emphases reflect the underlying profit drivers in a commercial operation targeting this production system and market.

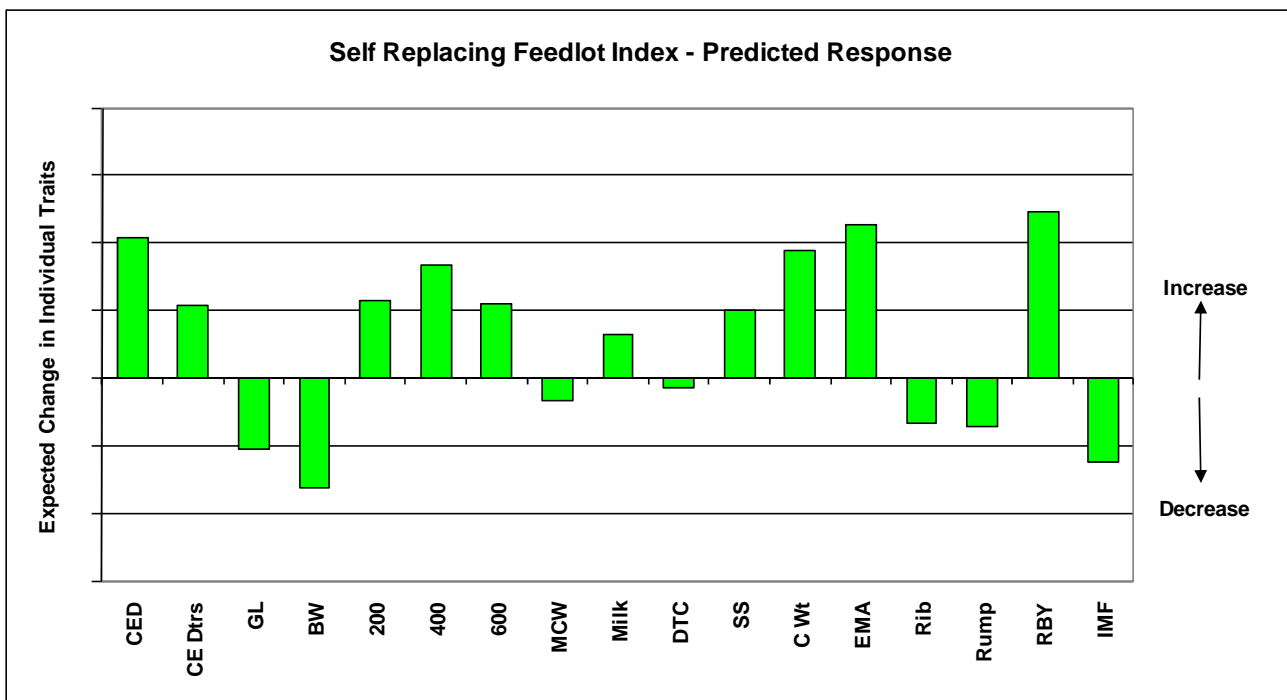


Considering the genetic relationship between the key profit drivers and the EBVs that are available, this transposes to the following EBV emphases. The sign indicates the direction of the emphasis. For example, greater 400 Day Weight EBVs and shorter Days to Calving EBVs are favoured.



While the graphs on the previous page show the different profit drivers and emphases that have been placed on each EBV within the Self Replacing Feedlot Selection Index, they do not illustrate the likely change that will occur to each individual trait if producers select animals using this selection index. The response to selection will also be influenced by such factors as the genetic relationship between traits and the animals that are available for selection. For example, while there is a slight negative weighting on 200 Day Weight in this selection index, it would be expected that growth to 200 days would increase considerably as there is a large weighting on 400 Day Weight.

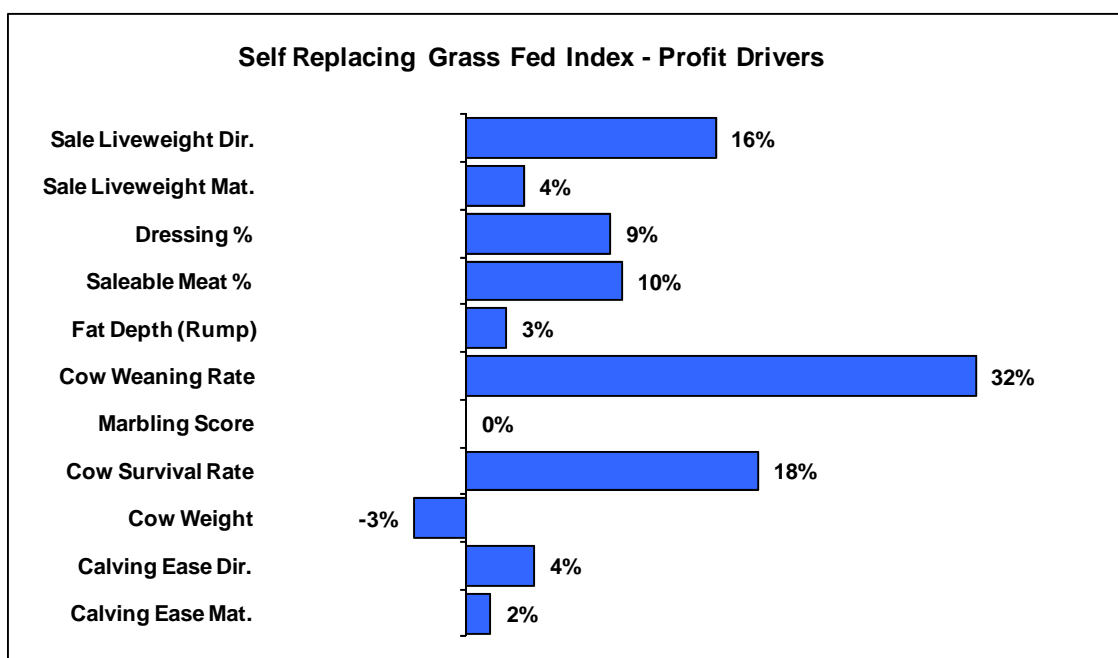
The following bar graph provides an indication of the relative change that would be expected in each individual trait if producers select animals using the Self Replacing Feedlot Selection Index. The graph reflects the relative change if the Simmentaler Published Sires (at the 2011 Southern African Simmentaler GROUP BREEDPLAN analysis) 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.



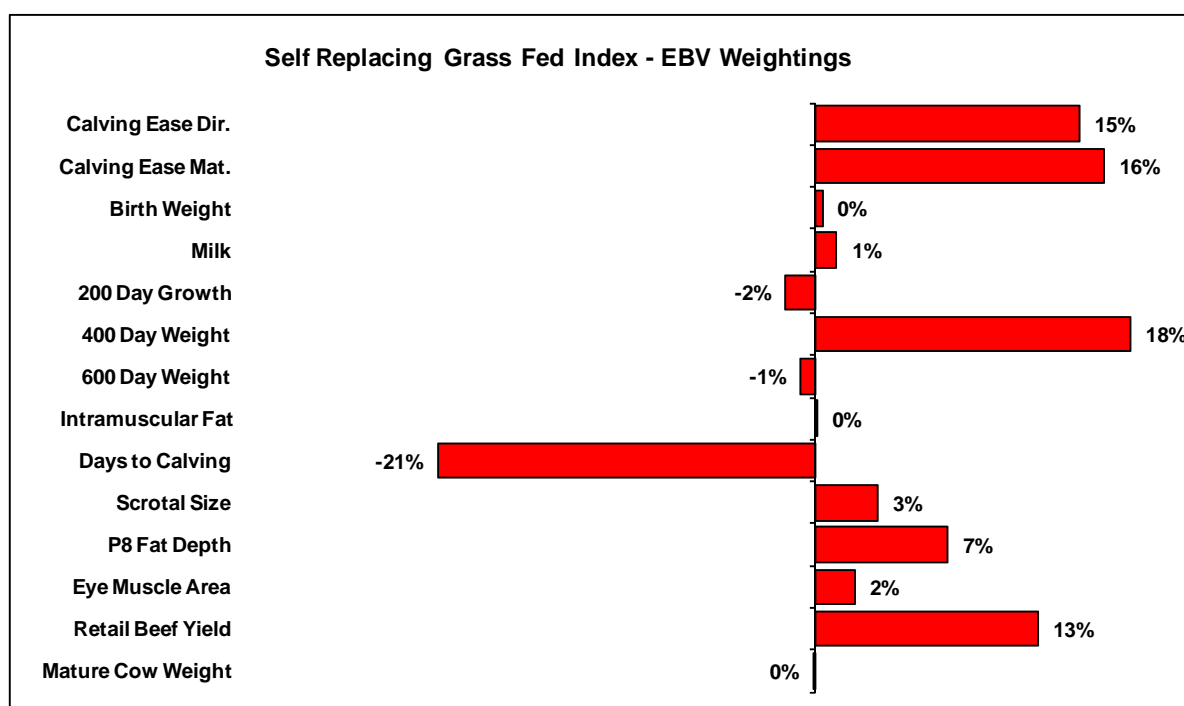
## ***Simmentaler Self Replacing Grass Fed Index***

The Self Replacing Grass Fed Index estimates the genetic differences between animals in net profitability per cow joined for an example purebred self-replacing herd. Calves are weaned at 7 months and then finished off on grass with little extra rations. Steers are slaughtered at around 11 months and 430 kg steer live weight. Significant emphasis is placed on calving ease, 400 day weight, days to calving and carcass yield.

The following bar graph shows the key economic traits that are important in this selection index. The different trait emphases reflect the underlying profit drivers in a commercial operation targeting this production system and market.

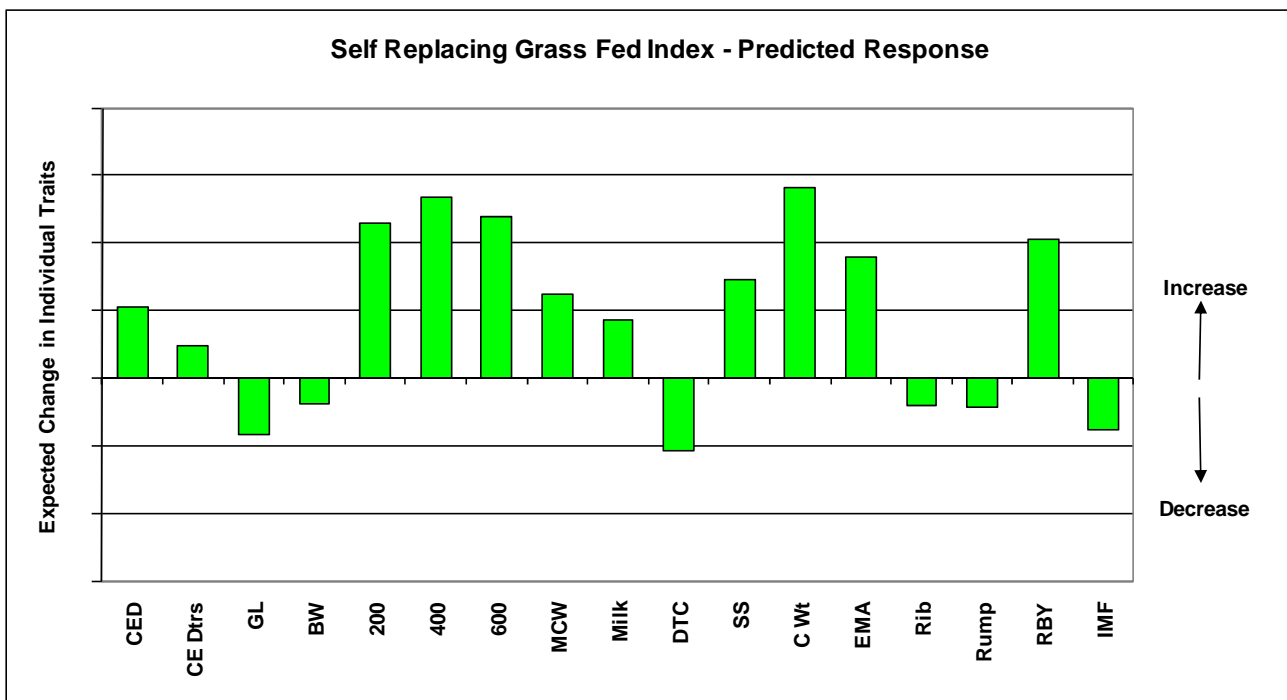


Considering the genetic relationship between the key profit drivers and the EBVs that are available, this transposes to the following EBV emphases. The sign indicates the direction of the emphasis. For example, greater 400 Day Weight EBVs and shorter Days to Calving EBVs are favoured.



While the graphs on the previous page show the different profit drivers and emphases that have been placed on each EBV within the Self Replacing Grass Fed Selection Index, they do not illustrate the likely change that will occur to each individual trait if producers select animals using this selection index. The response to selection will also be influenced by such factors as the genetic relationship between traits and the animals that are available for selection. For example, while there is a slight negative weighting on 200 Day Weight in this selection index, it would be expected that growth to 200 days would increase considerably as there is a large weighting on 400 Day Weight.

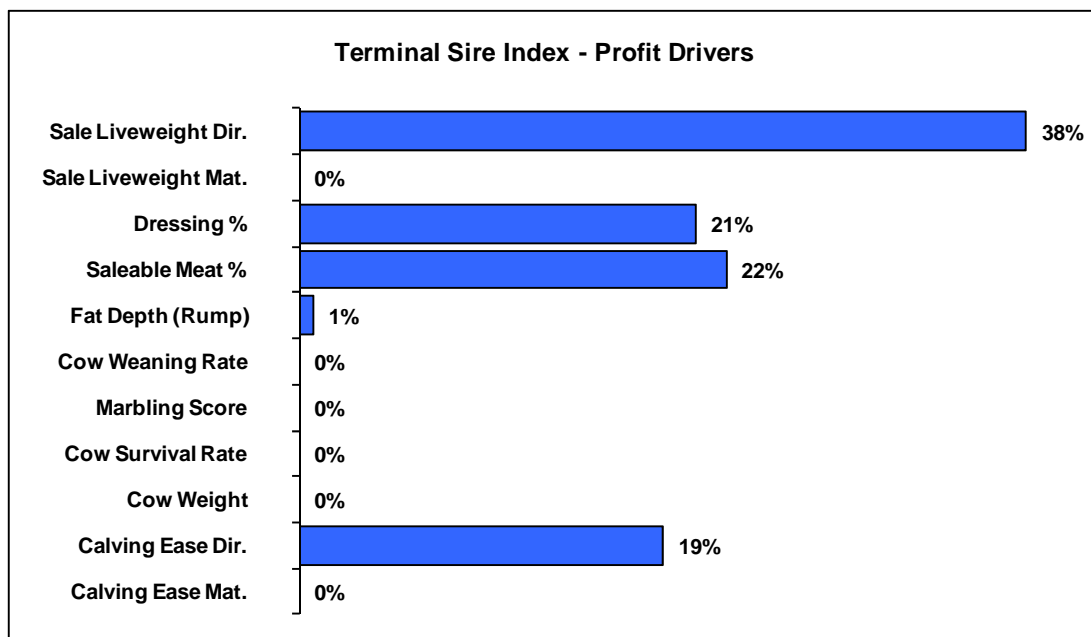
The following bar graph provides an indication of the relative change that would be expected in each individual trait if producers select animals using the Self Replacing Grass Fed Index. The graph reflects the relative change if the Simmentaler Published Sires (at the 2011 Southern African Simmentaler GROUP BREEDPLAN analysis) 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.



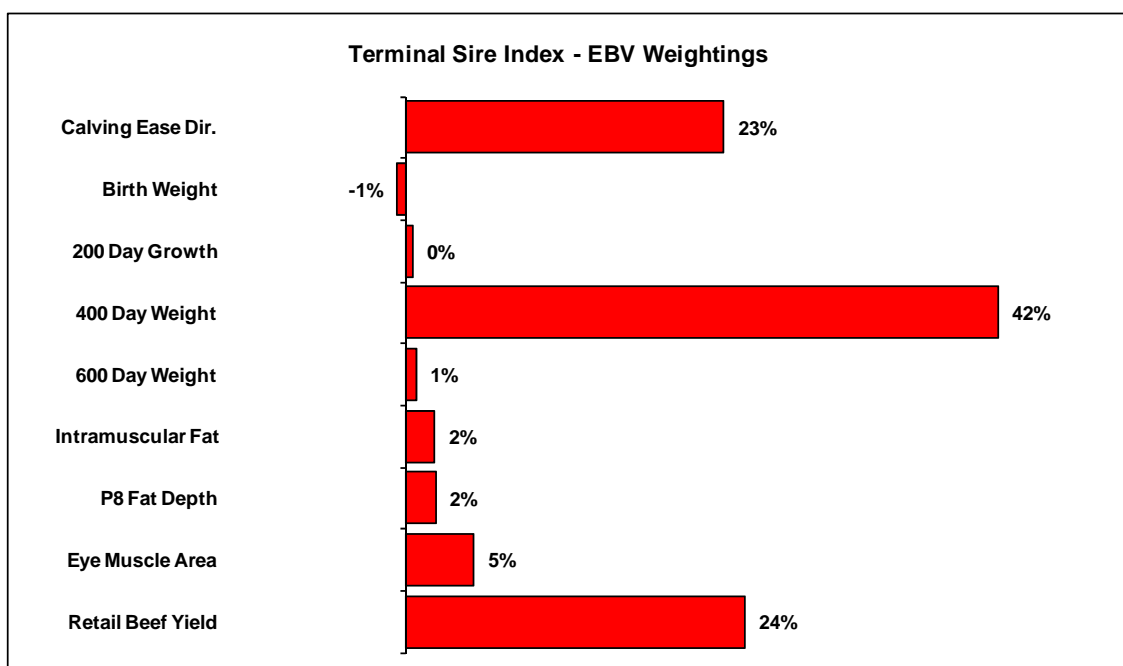
## ***Simmentaler Terminal Sire Index***

The Terminal Sire Index estimates the genetic differences between animals in net profitability per cow joined for an example commercial crossbred herd where no animals are kept for replacement or breeding purposes. Mating is based on terminal sires used over moderate weight Bos Indicus/British type cows. Calves are weaned at 7 months (at around 250kg) and then fed extra rations for 120 days to be slaughtered at around 11 months and 430 kg steer live weight. Significant emphasis is placed on calving ease, 400 day weight, and carcass yield.

The following bar graph shows the key economic traits that are important in this selection index. The different trait emphases reflect the underlying profit drivers in a commercial operation targeting this production system and market.



Considering the genetic relationship between the key profit drivers and the EBVs that are available, this transposes to the following EBV emphases. The sign indicates the direction of the emphasis.



While the graphs on the previous page show the different profit drivers and emphases that have been placed on each EBV within the Terminal Sire Selection Index, they do not illustrate the likely change that will occur to each individual trait if producers select animals using this selection index. The response to selection will also be influenced by such factors as the genetic relationship between traits and the animals that are available for selection. For example, while there is only no direct weighting on 200 Day Weight in this selection index, it would be expected that growth to 200 days would increase considerably as there is a large weighting on 400 Day Weight.

The following bar graph provides an indication of the relative change that would be expected in each individual trait if producers select animals using the Terminal Sire Selection Index. The graph reflects the relative change if the Simmentaler Published Sires (at the 2011 Southern African Simmentaler GROUP BREEDPLAN analysis) 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.

