

## Australian Simmental Selection Indexes

There are four different selection indexes calculated for Australian Simmental animals. These are:

- ❑ Domestic Maternal Index
- ❑ Export Maternal Index
- ❑ Northern Terminal Index
- ❑ Vealer Terminal Index

Each selection index describes a different production/market scenario and relates to a typical commercial herd using Simmental bulls and targeting the following specifications.

**Domestic Maternal Index** - Estimates the genetic differences between animals in net profitability per cow joined for an example commercial herd in Southern Australia (e.g. Angus cows) targeting the domestic supermarket trade. Steers are either finished on grass or grain (e.g. 60-70 days). Steers are marketed at 430 kg live weight (240 kg HSCW and 6 mm P8 fat depth) at 14 months of age. Daughters are retained for breeding.

**Export Maternal Index** - Estimates the genetic differences between animals in net profitability per cow joined for an example commercial herd in Southern Australia (e.g. Angus cows) targeting the export trade. Steers are finished on grain (e.g. 120 days) and marketed at 700 kg live weight (380 kg HSCW and 8 mm P8 fat depth) at 28 months of age. Daughters are retained for breeding.

**Northern Terminal Index** - Estimates the genetic differences between animals in net profitability per cow joined for an example commercial herd in Northern Australia (e.g. Brahman cows) targeting the export trade. Steers are finished on grass and marketed at 630 kg live weight (345 kg HSCW and 12 mm P8 fat depth) at 28 months of age. This is a terminal production system therefore no daughters are retained for breeding.

**Vealer Terminal Index** - Estimates the genetic differences between animals in net profitability per cow joined for an example commercial herd in Southern Australia (e.g. Angus cows) targeting the vealer trade. Vealers are weaned and sold at 8 months of age weighing 350 kg (195 kg HSCW and 6 mm P8 fat depth). This is a terminal production system therefore heifers are not retained for breeding purposes.

All selection indexes are reported as an EBV, in units of relative earning capacity (\$) 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).

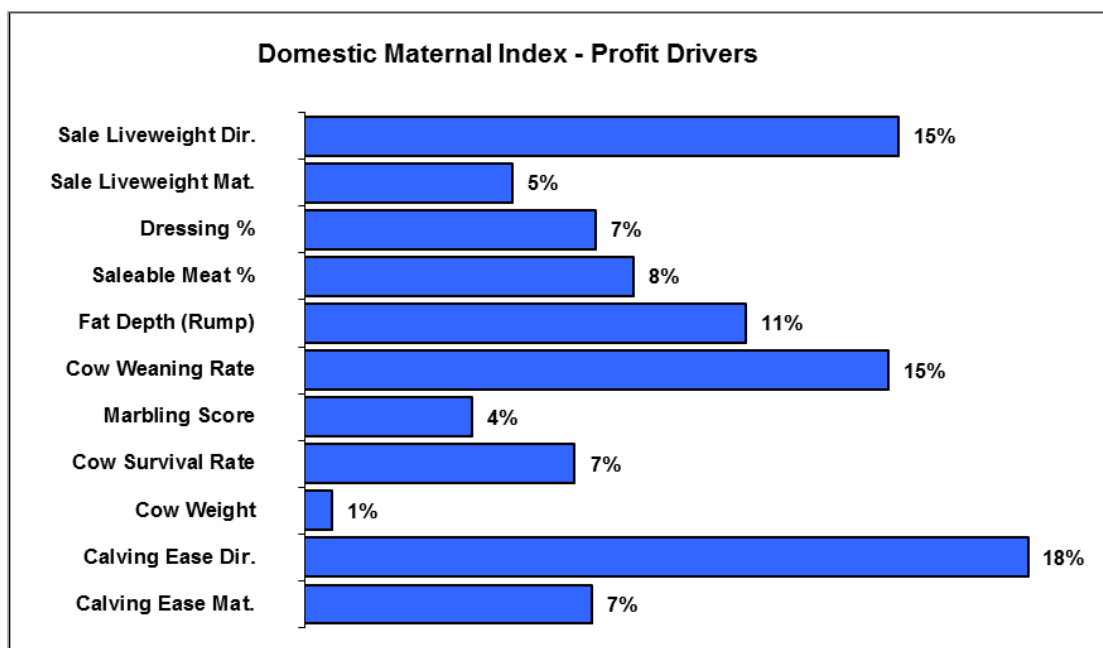
All selection index values have been derived using BreedObject technology. More detailed information regarding each selection index is provided on the following pages. Further information is also available in the Tip Sheet titled "Selection Indexes – A General Introduction".

*If you have any further queries regarding Simmental Selection Indexes, please do not hesitate to contact staff at your BREEDPLAN processing centre.*

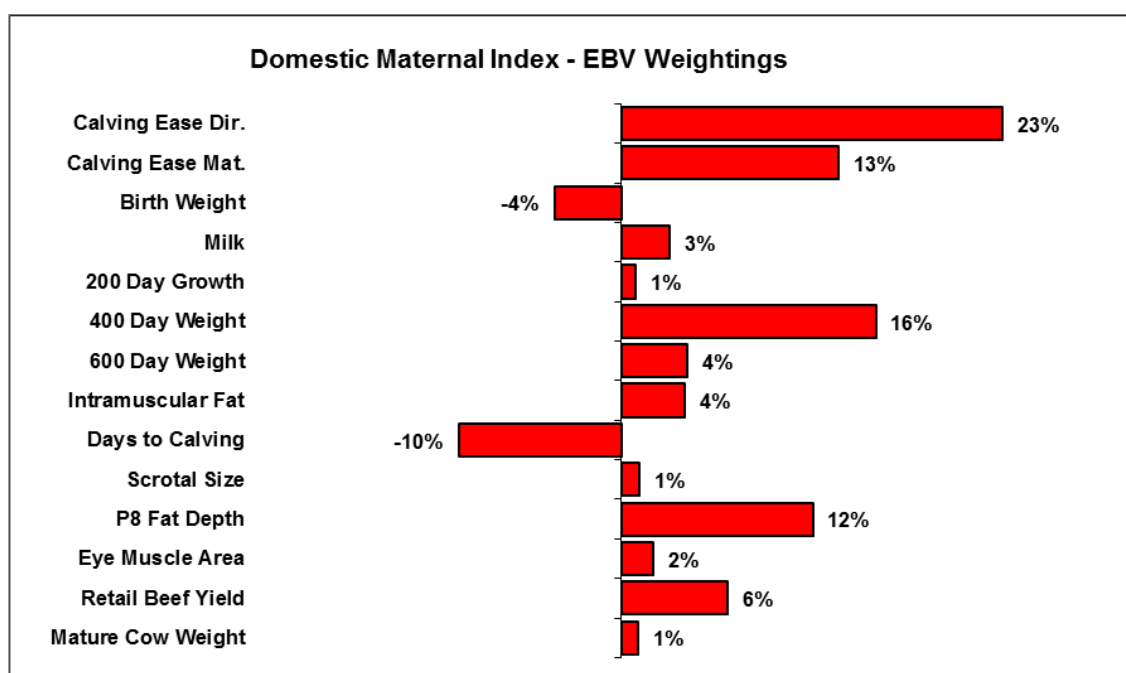
## ***Simmental Domestic Maternal Index***

The Simmental Domestic Maternal Index estimates the genetic differences between animals in net profitability per cow joined for an example commercial herd in Southern Australia (e.g. Angus cows) targeting the domestic supermarket trade. Steers are either finished on grass or grain (e.g. 60-70 days). Steers are marketed at 430 kg live weight (240 kg HSCW and 6 mm P8 fat depth) at 14 months of age. Daughters are retained for breeding.

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.

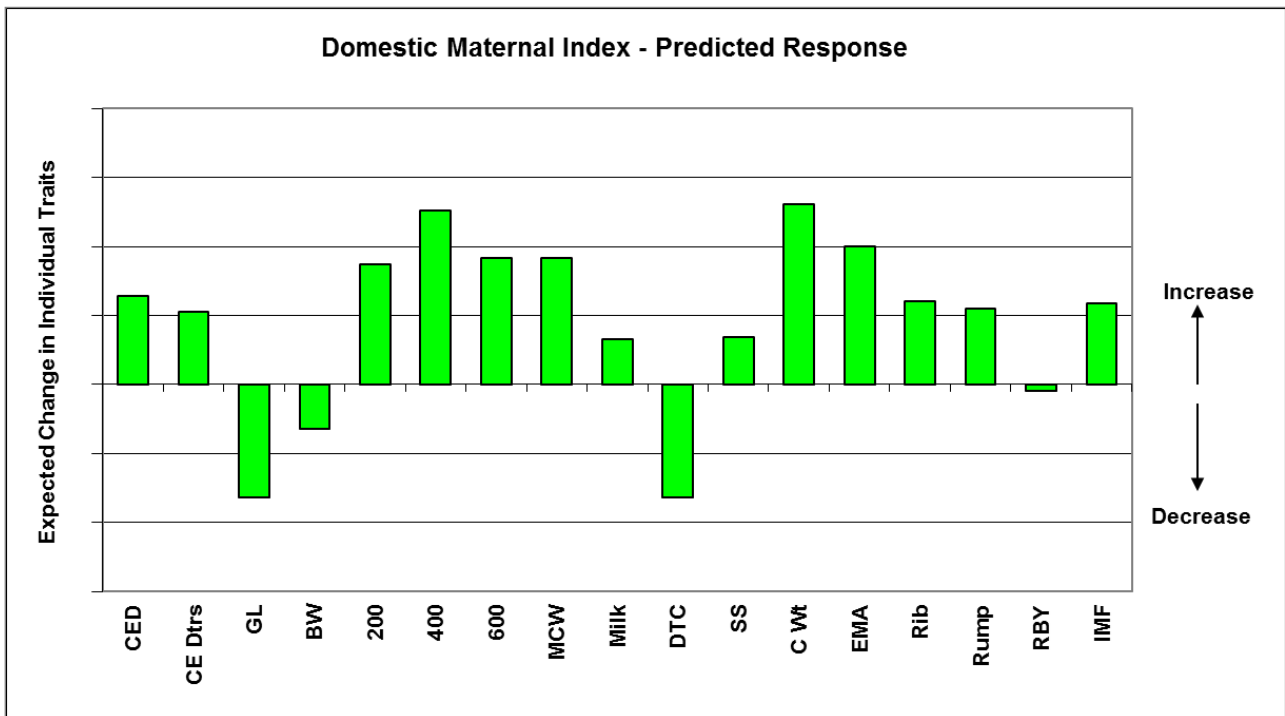


Considering the genetic relationship between the key profit drivers and the EBVs that are available, this transposes to the following EBV emphases. The sign indicates the direction of the emphasis. For example, greater 400 Day Weight EBVs and shorter Days to Calving EBVs are favoured.



While the graphs on the previous page show the different profit drivers and emphases that have been placed on each EBV within the Domestic Maternal 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 a slight weighting on 200 Day Growth in this selection index, it would be expected that growth to 200 days would increase as there is a large weighting on 400 Day Weight.

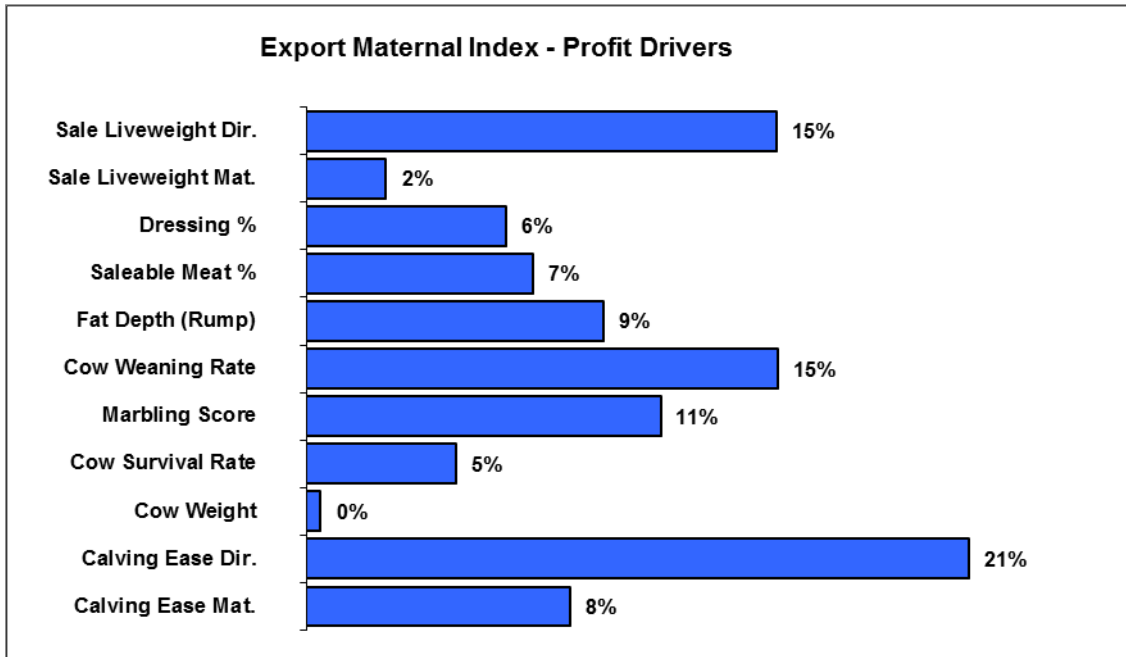
The following bar graph provides an indication of the relative change that would be expected in each individual trait if producers select animals using the Domestic Maternal Index. The graph reflects the relative change if the Simmental Published Sires (at the 2011 Spring Simmental GROUP BREEDPLAN analysis) 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.



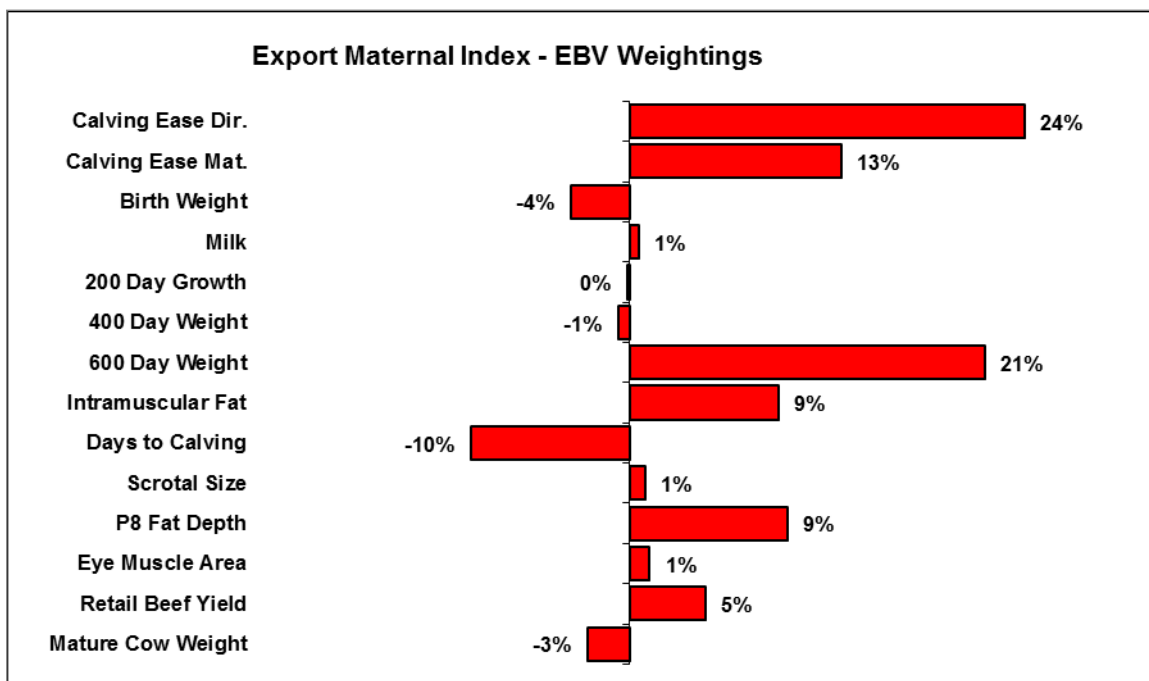
## ***Simmental Export Maternal Index***

The Simmental Export Maternal Index estimates the genetic differences between animals in net profitability per cow joined for an example commercial herd in Southern Australia (e.g. Angus cows) targeting the export trade. Steers are finished on grain (e.g. 120 days) and marketed at 700 kg live weight (380 kg HSCW and 8 mm P8 fat depth) at 28 months of age. Daughters are retained for breeding.

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.

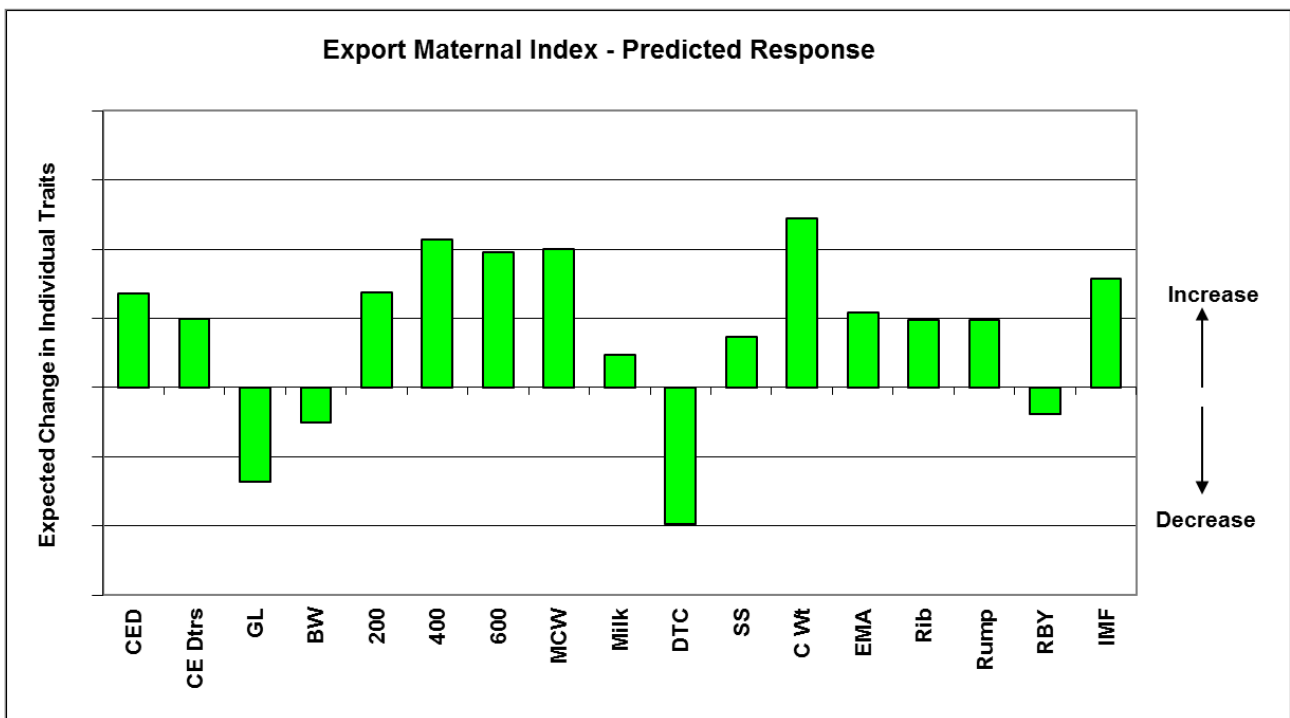


Considering the genetic relationship between the key profit drivers and the EBVs that are available, this transposes to the following EBV emphases. The sign indicates the direction of the emphasis. For example, greater 600 Day Weight EBVs and shorter Days to Calving EBVs are favoured.



While the graphs on the previous page show the different profit drivers and emphases that have been placed on each EBV within the Export Maternal 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 no direct weighting on 200 Day Growth in this selection index, it would be expected that growth to 200 days would increase as there is a large weighting on 600 Day Weight.

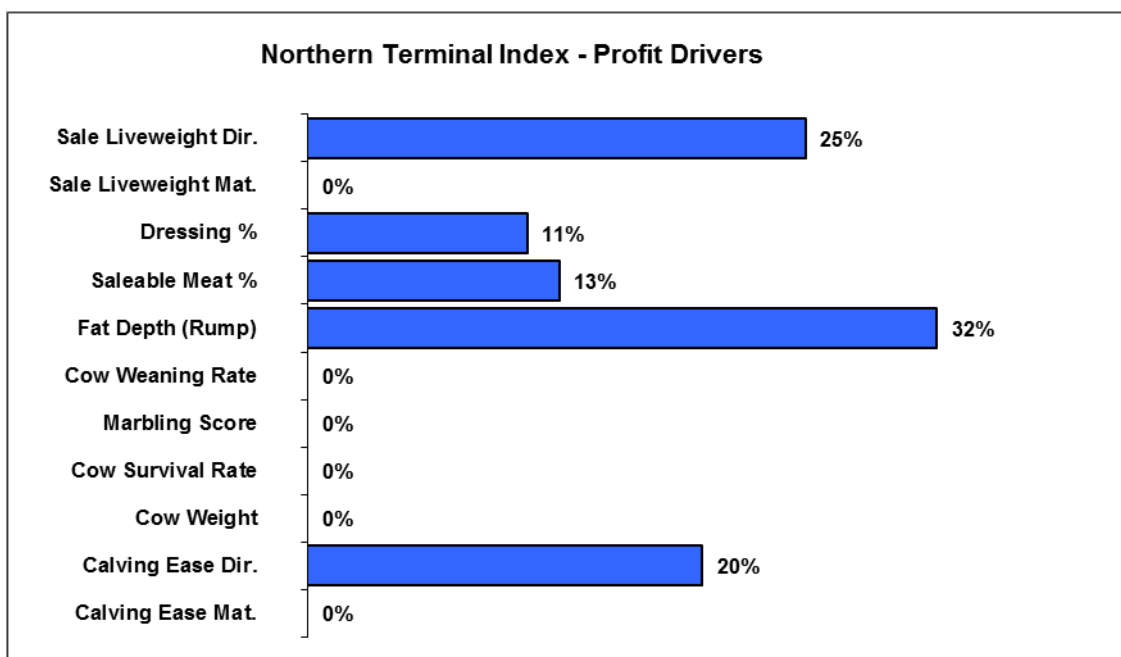
The following bar graph provides an indication of the relative change that would be expected in each individual trait if producers select animals using the Export Maternal Index. The graph reflects the relative change if the Simmental Published Sires (at the 2011 Spring Simmental GROUP BREEDPLAN analysis) 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.



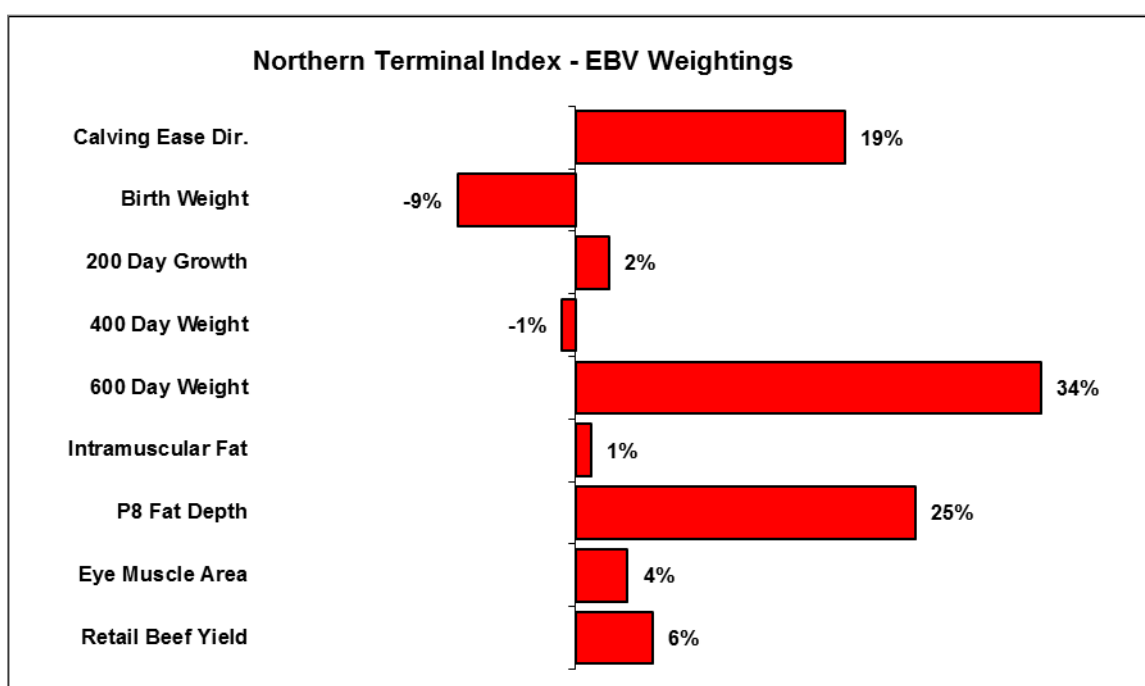
## ***Simmental Northern Terminal Index***

The Simmental Northern Terminal Index estimates the genetic differences between animals in net profitability per cow joined for an example commercial herd in Northern Australia (e.g. Brahman cows) targeting the export trade. Steers are finished on grass and marketed at 630 kg live weight (345 kg HSCW and 12 mm P8 fat depth) at 28 months of age. This is a terminal production system therefore no daughters are retained for breeding.

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.

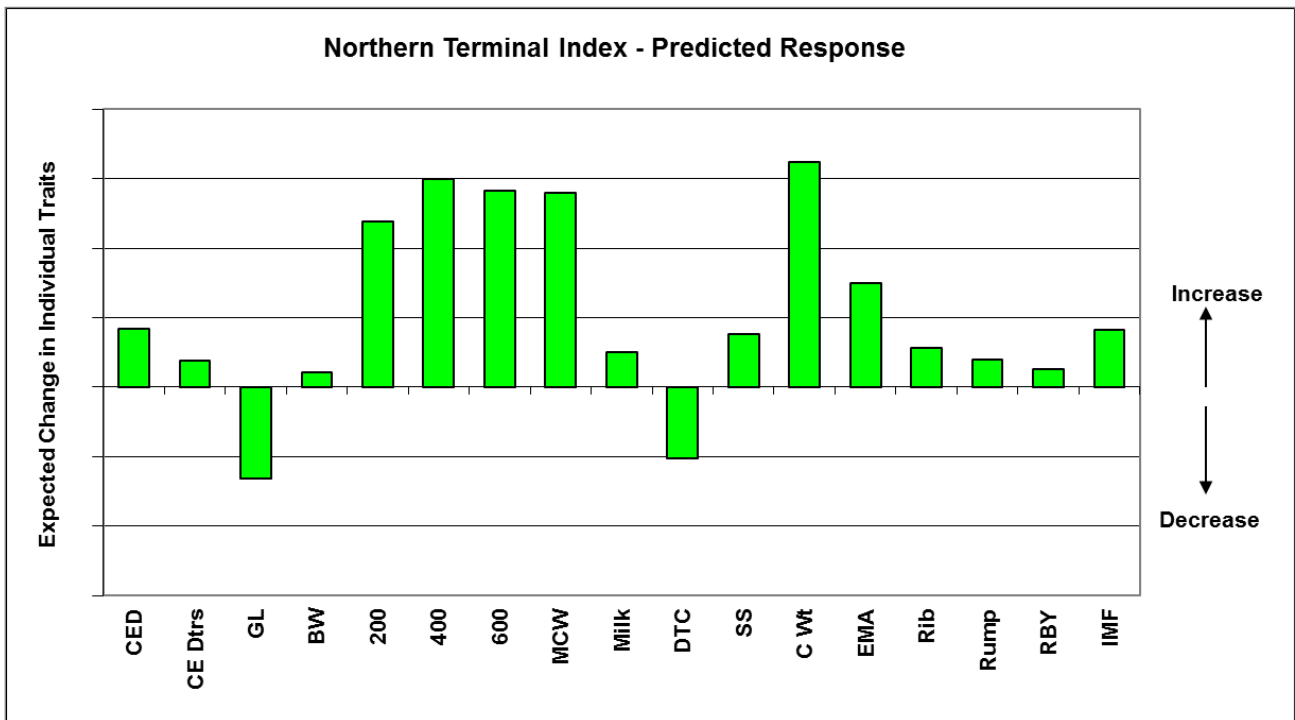


Considering the genetic relationship between the key profit drivers and the EBVs that are available, this transposes to the following EBV emphases. The sign indicates the direction of the emphasis. For example, greater 600 Day Weight EBVs and lighter Birth Weight EBVs are favoured.



While the graphs on the previous page show the different profit drivers and emphases that have been placed on each EBV within the Northern Terminal 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 a slight weighting on 200 Day Growth in this selection index, it would be expected that growth to 200 days would increase as there is a large weighting on 600 Day Weight.

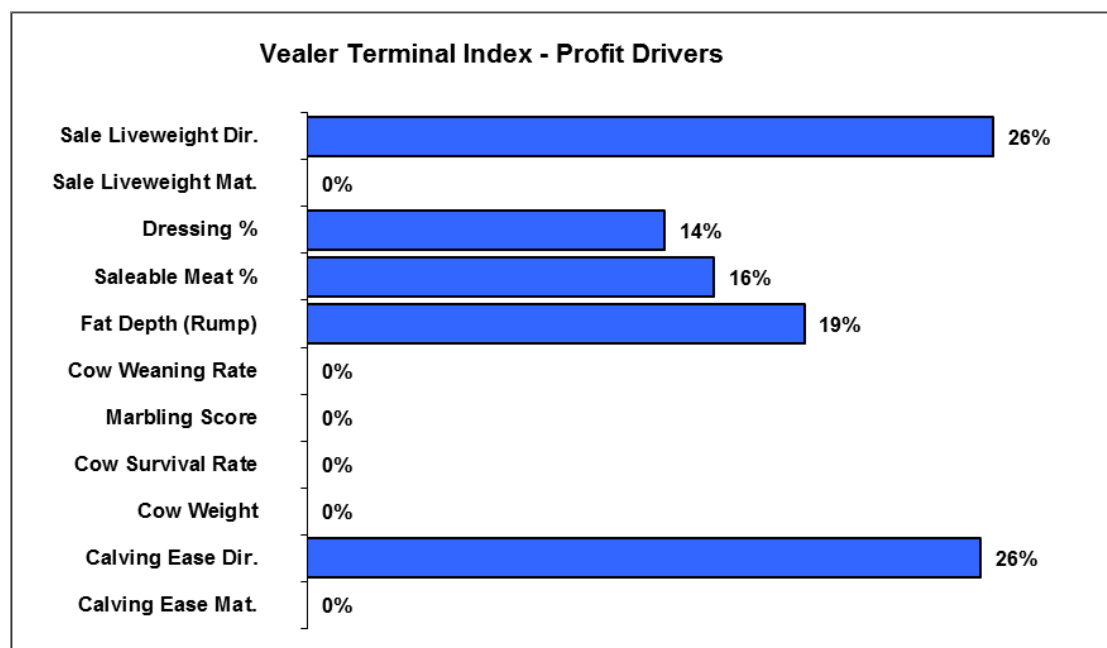
The following bar graph provides an indication of the relative change that would be expected in each individual trait if producers select animals using the Northern Terminal Index. The graph reflects the relative change if the Simmental Published Sires (at the 2011 Spring Simmental GROUP BREEDPLAN analysis)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



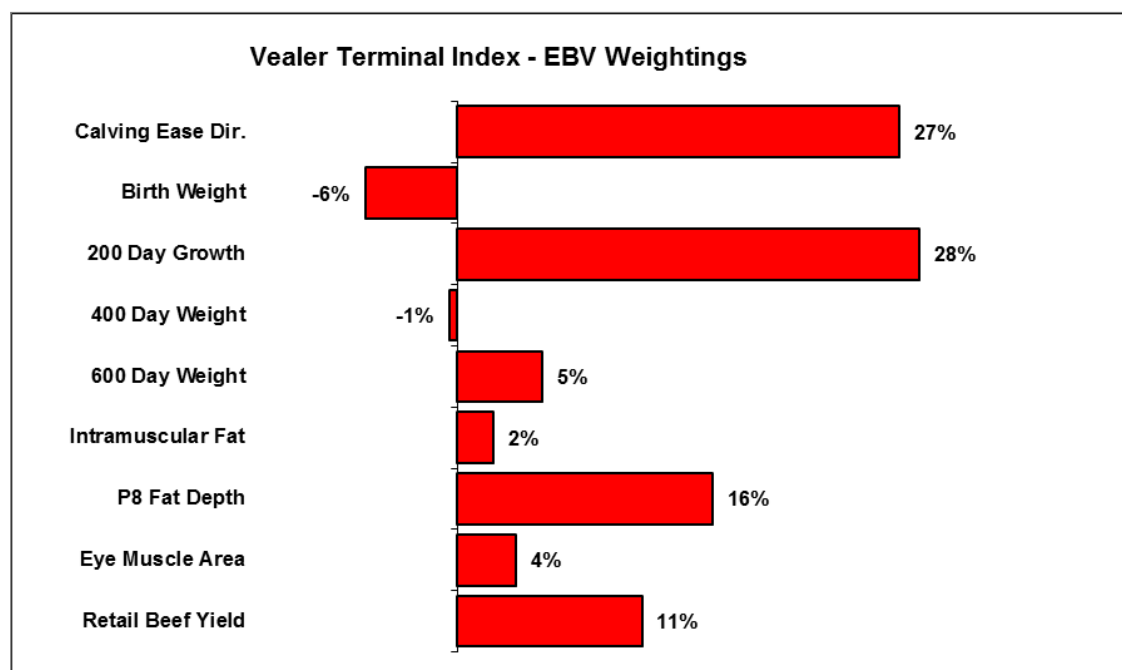
## Simmental Vealer Terminal Index

The Simmental Vealer Terminal Index estimates the genetic differences between animals in net profitability per cow joined for an example commercial herd in Southern Australia (e.g. Angus cows) targeting the vealer trade. Vealers are weaned and sold at 8 months of age weighing 350 kg (195 kg HSCW and 6 mm P8 fat depth). This is a terminal production system therefore heifers are not retained for breeding purposes.

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. The sign indicates the direction of the emphasis. For example, greater 200 Day Weight EBVs and lighter Birth Weight 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 Vealer Terminal 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 negative weighting on 400 Day Weight in this selection index, it would be expected that growth to 400 days would increase as there is a large weighting on 200 Day Growth.

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 Vealer Terminal Index. The graph reflects the relative change if the Simmental Published Sires (at the 2011 Spring Simmental 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.

