Australian Belmont Selection Indexes

There are currently two different selection indexes calculated for Australian Belmont animals. These are:

- ❑ Domestic Steer Index
- ❑ Export Steer Index

Each selection index describes a different production/market scenario and relates to a typical, self replacing Belmont herd running cattle in a sub-tropical environment targeting the following specifications.

Domestic Steer Index – Estimates the genetic differences between animals in net profitability per cow joined for an example self replacing commercial herd (run in sub-tropical environment) producing steers for the domestic trade. This index assumes that the steer progeny are pasture grown and finished and marketed at 460 kg live weight (240 kg HSCW and 6 mm P8 fat depth) at 16 months of age. Daughters are retained for breeding.

Export Steer Index – Estimates the genetic differences between animals in net profitability per cow joined for an example commercial herd (run in a sub-tropical environment) producing steers for the export trade. This index assumes that the steer progeny are pasture grown and finished and are marketed at 680 kg live weight (370 kg HSCW and 12 mm P8 fat depth) at 30 months of age. Daughters are retained for breeding.

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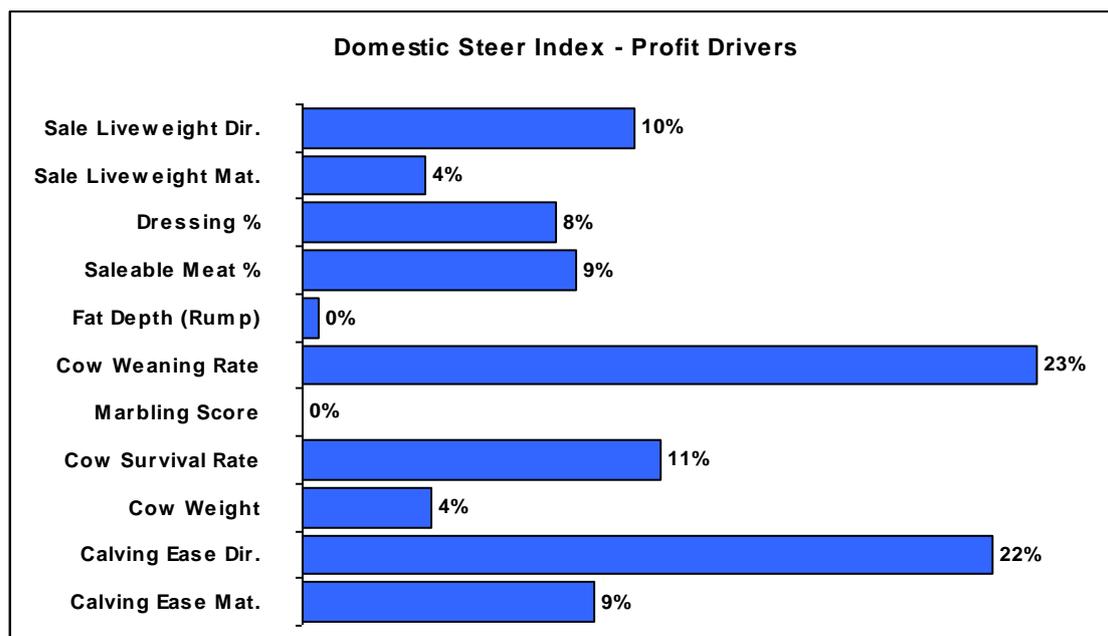
All selection index values have been derived using BreedObject technology. More detailed information regarding each selection index is provided on the following pages.

If you have any further queries regarding Belmont Selection Indexes, please do not hesitate to contact staff at your BREEDPLAN processing centre.
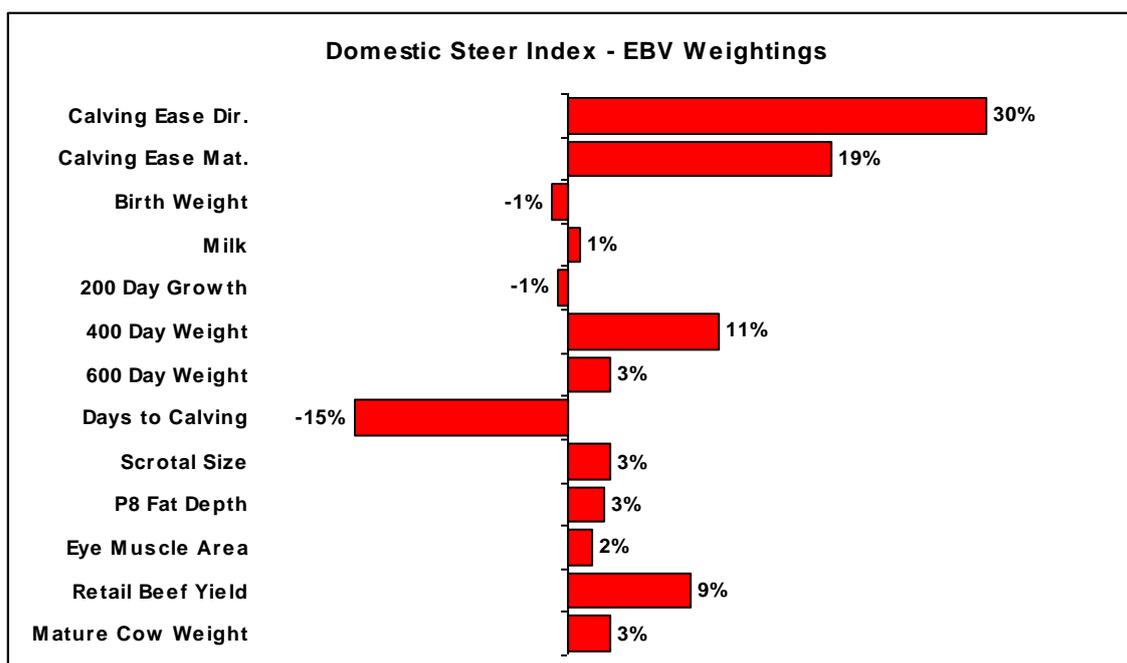
Belmont Domestic Steer Index

The Belmont Domestic Steer Index estimates the genetic differences between animals in net profitability per cow joined for an example self replacing commercial herd (run in sub-tropical environment) producing steers for the domestic trade. This index assumes that the steer progeny are pasture grown and finished and marketed at 460 kg live weight (240 kg HSCW and 6 mm P8 fat depth) at 16 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 the domestic trade.

Domestic Steer Index - Profit Drivers

| Trait	Value
Sale Liveweight Dir.	10%
Sale Liveweight Mat.	4%
Dressing %	8%
Saleable Meat %	9%
Fat Depth (Rump)	0%
Cow Weaning Rate	23%
Marbling Score	0%
Cow Survival Rate	11%
Cow Weight	4%
Calving Ease Dir.	22%
Calving Ease Mat.	9%

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.

Domestic Steer Index - EBV Weightings

Trait	Value
Calving Ease Dir.	30%
Calving Ease Mat.	19%
Birth Weight	-1%
Milk	1%
200 Day Growth	-1%
400 Day Weight	11%
600 Day Weight	3%
Days to Calving	-15%
Scrotal Size	3%
P8 Fat Depth	3%
Eye Muscle Area	2%
Retail Beef Yield	9%
Mature Cow Weight	3%

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While the graphs on the previous page show the different profit drivers and emphases that have been placed on each EBV within the Domestic Steer 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 600 Day Weight in this selection index, it would be expected that growth to 600 days would increase as there is a large weighting on 400 Day Growth.
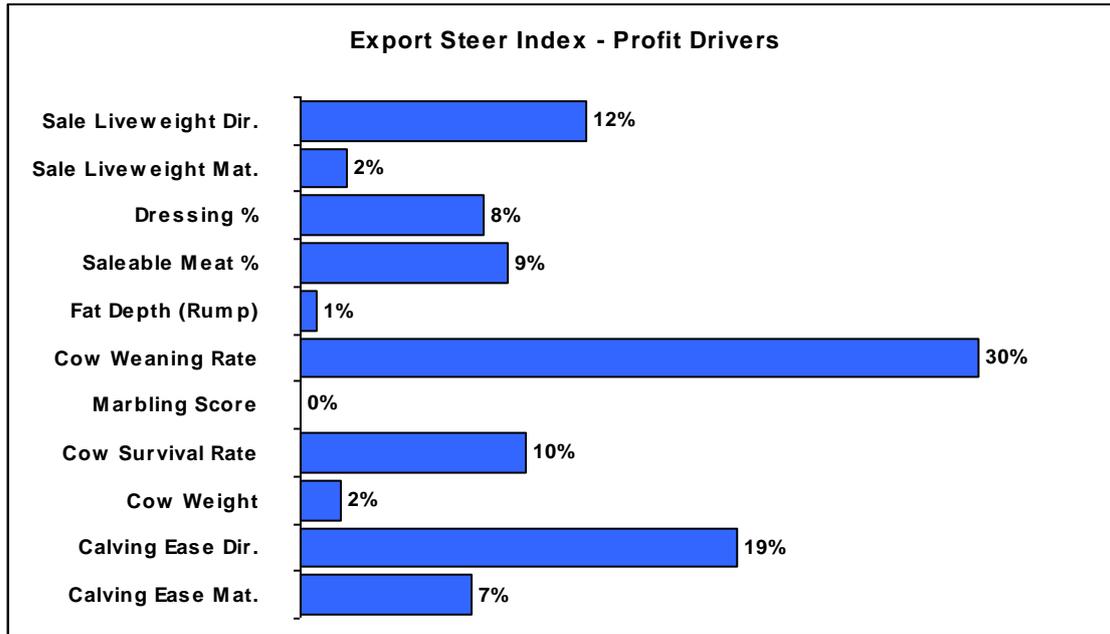
The following bar graph provides an indication of the relative change that would be expected in each individual trait if producers select animals using the Domestic Steer Index. The graph reflects the relative change if the Belmont Sires with an EMA EBV (at the 2009 Australian Composite GROUP BREEDPLAN 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.
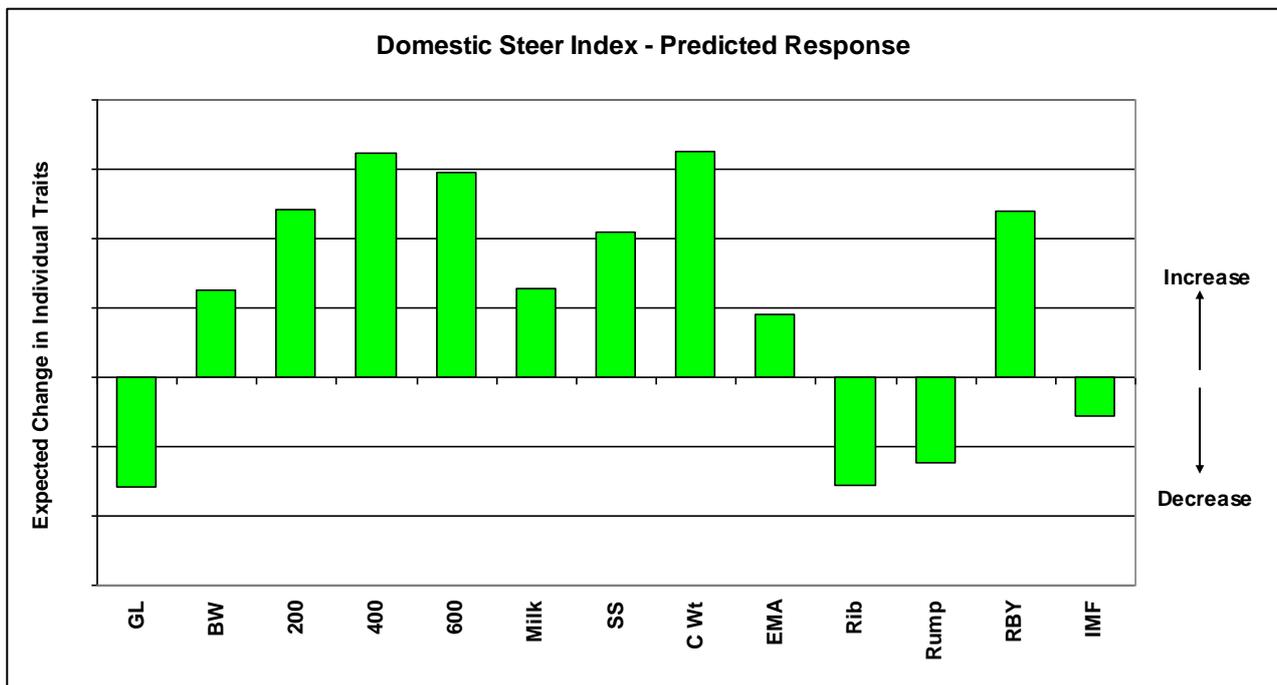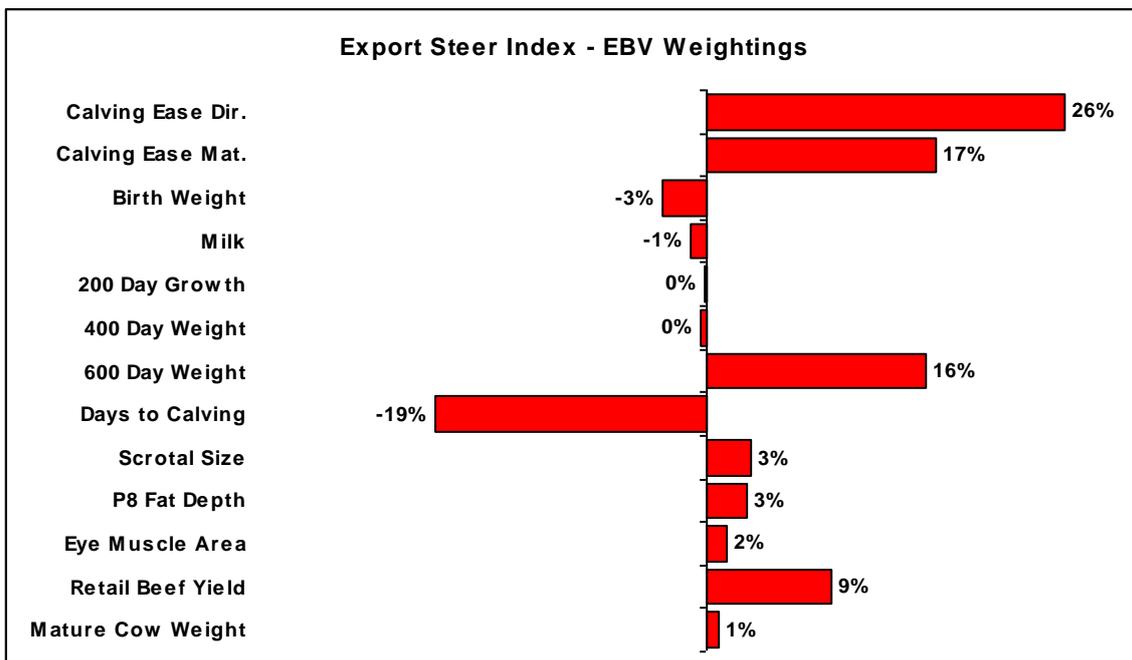
Belmont Export Steer Index

The Belmont Export Steer Index estimates the genetic differences between animals in net profitability per cow joined for an example commercial herd (run in a sub-tropical environment) producing steers for the export trade. This index assumes that the steer progeny are pasture grown and finished and are marketed at 680 kg live weight (370 kg HSCW and 12 mm P8 fat depth) at 30 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 the export trade.

Export Steer Index - Profit Drivers

Trait	Value
Sale Liveweight Dir.	12%
Sale Liveweight Mat.	2%
Dressing %	8%
Saleable Meat %	9%
Fat Depth (Rump)	1%
Cow Weaning Rate	30%
Marbling Score	0%
Cow Survival Rate	10%
Cow Weight	2%
Calving Ease Dir.	19%
Calving Ease Mat.	7%

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.

Export Steer Index - EBV Weightings

Trait	Value
Calving Ease Dir.	26%
Calving Ease Mat.	17%
Birth Weight	-3%
Milk	-1%
200 Day Growth	0%
400 Day Weight	0%
600 Day Weight	16%
Days to Calving	-19%
Scrotal Size	3%
P8 Fat Depth	3%
Eye Muscle Area	2%
Retail Beef Yield	9%
Mature Cow Weight	1%

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While the graphs on the previous page show the different profit drivers and emphases that have been placed on each EBV within the Export Steer 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 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 600 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 Export Steer Index. The graph reflects the relative change if the Belmont Sires with an EMA EBV (at the 2009 Australian Composite 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.