BREEDPLAN Tips

United Kingdom Beef Shorthorn Selection Indexes

There are currently three different selection indexes calculated for United Kingdom Beef Shorthorn animals. These are:

- Self-Replacing Index
- Maternal Index
- Terminal Index

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

Self-Replacing Index - The Self Replacing Index is designed for a purebred commercial Beef Shorthorn herd that is focusing on breeding both herd replacements and finishing all steers and surplus heifers. It estimates the genetic differences between animals in net profitability per cow joined for an example Beef Shorthorn commercial cow herd targeting the production of finishing steers (average 150 days on feed). Steers are then marketed at an average of 650kg kg live weight (355kg carcase weight) at 20 months of age. Some daughters are retained for breeding.

Maternal Index - The Maternal Index is designed for a commercial Beef Shorthorn cross herd that is focussed on breeding herd replacements and on weaning as many and as heavy calves as possible at 8 months of age. It estimates the genetic differences between animals in net profitability per cow joined for an example Beef Shorthorn Euro cross commercial cow herd targeting the production of pasture grown calves. Steers and heifers are weaned and marketed at an average of 350kg live weight at 8 months of age for further finishing or as replacement heifers.

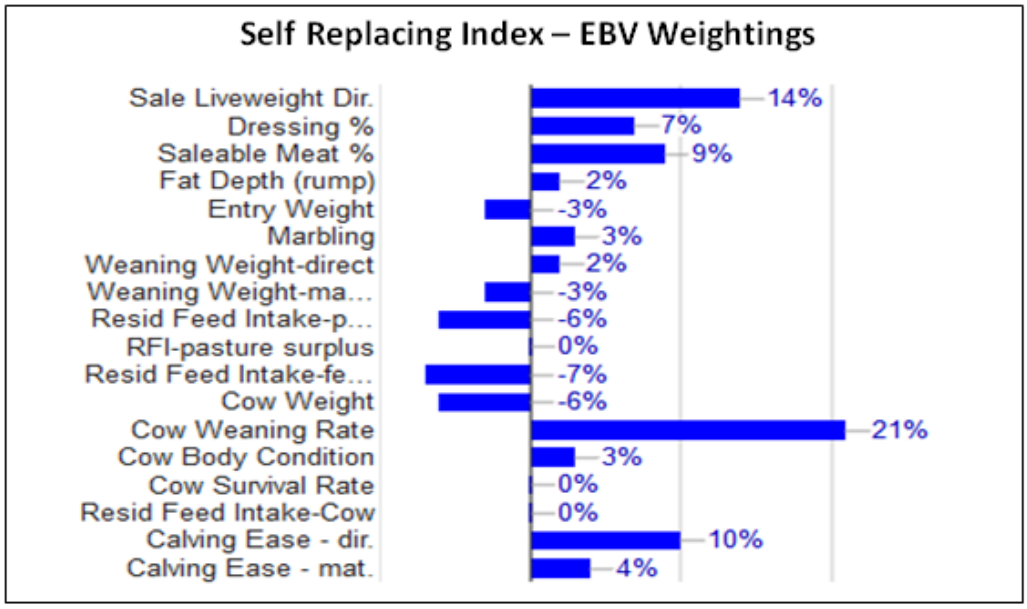
Terminal Index - The Terminal Index is designed for a commercial herd using the Beef Shorthorn as a Terminal Sire on Euro cross cows. It estimates the genetic differences between animals in net profitability per cow joined for an example Beef Shorthorn Euro cross commercial cow herd targeting the production of finishing heifers and steers (average 150 days on feed). The heifers and steers are then marketed at an average of 590kg live weight (320 kg carcase weight) at 21 months of age. All progeny are slaughtered

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).

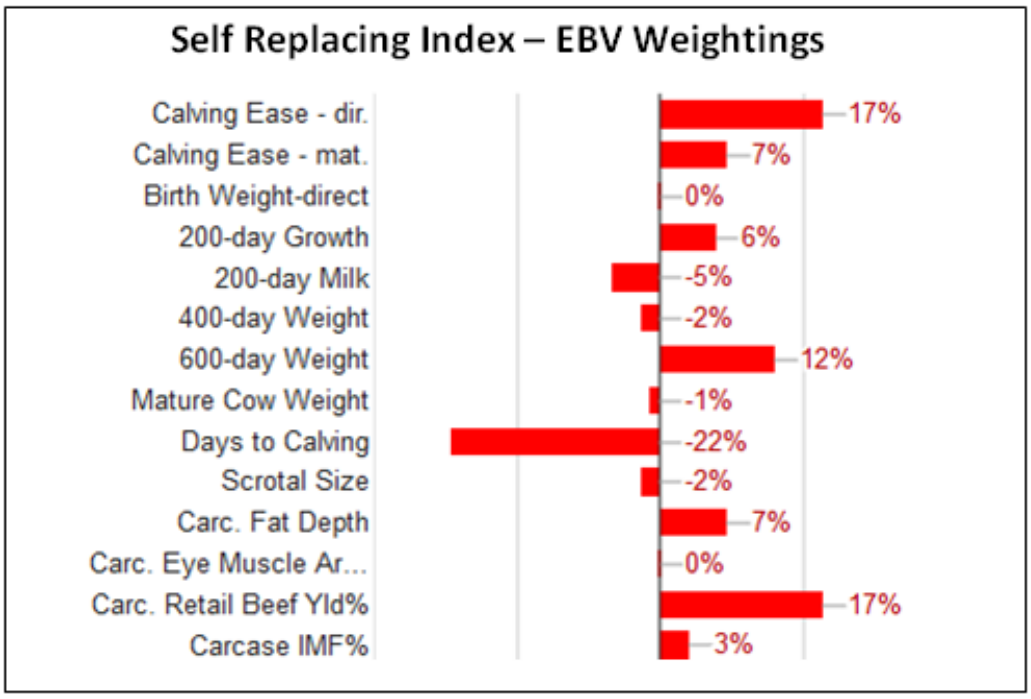
All selection index values have been derived using BreedObject technology. More detailed information regarding each selection index is provided on the following pages.

Beef Shorthorn Self-Replacing Index

The Self Replacing Index estimates the genetic differences between animals in net profitability per cow joined for an example Beef Shorthorn commercial cow herd targeting the production of finishing steers (average 150 days on feed). Steers are then marketed at an average of 650kg kg live weight (355kg carcase weight) at 20 months of age. Some 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 self replacing commercial operation.



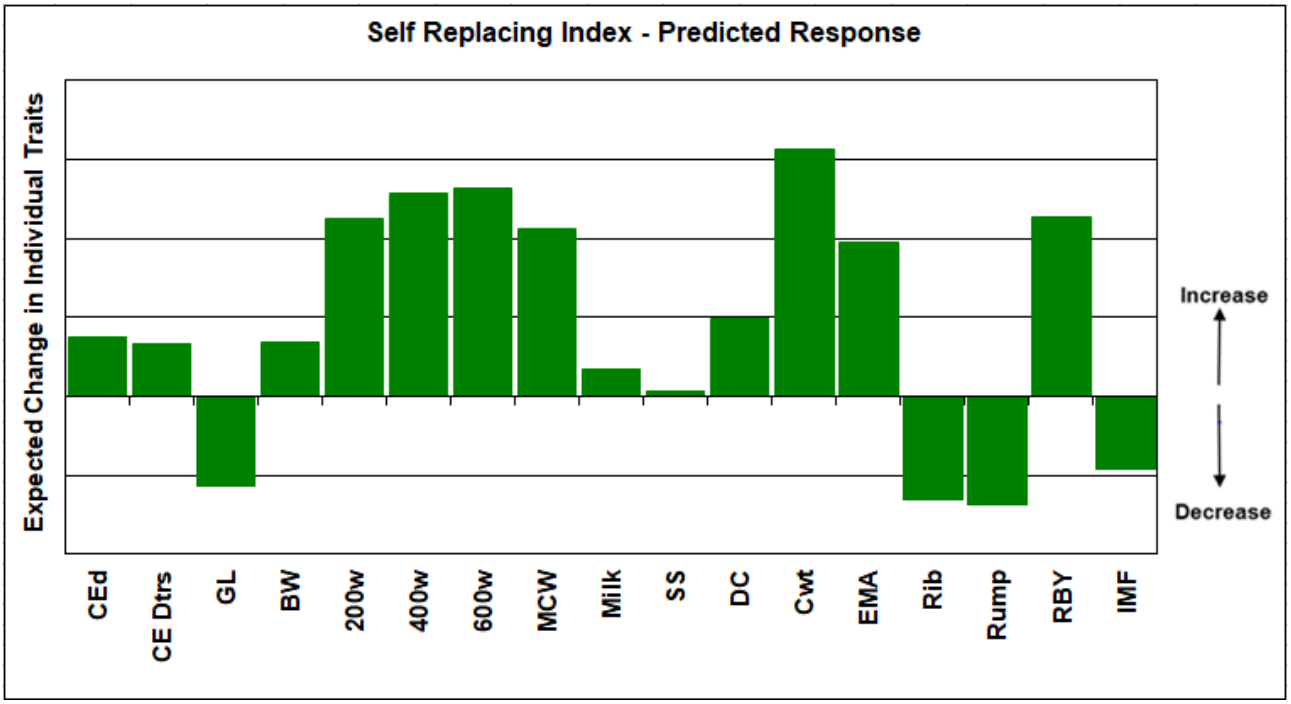
Considering the genetic relationship between the key profit drivers and the EBVs that are available, this transposes to the following EBV emphases. The sign indicates the direction of the emphasis. For example, greater 600 Day Weight EBVs and shorter Days to Calving EBVs are favoured.



July 2019

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 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 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 Weight.

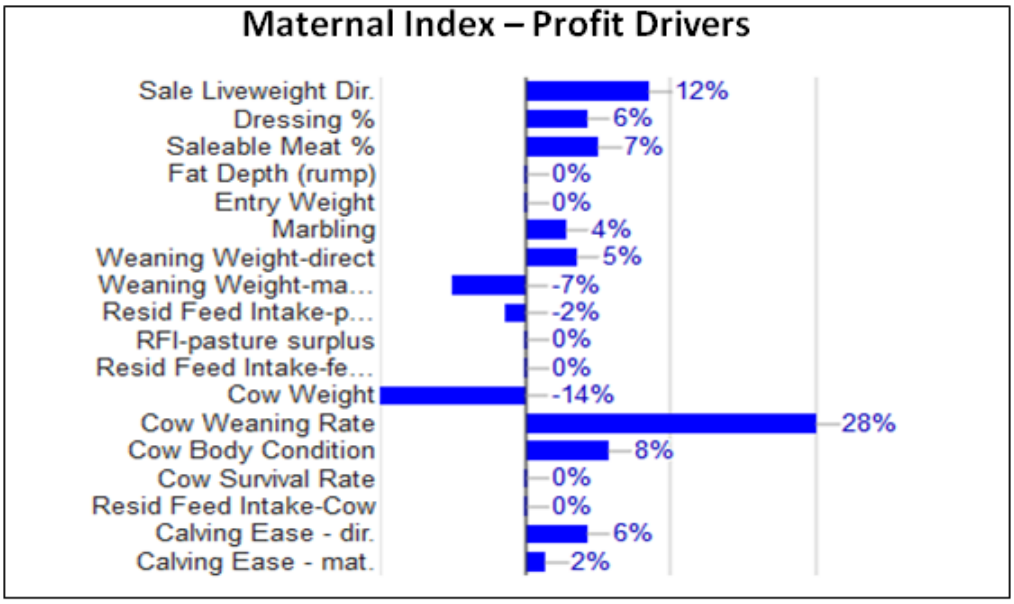
The following bar graph provides an indication of the relative change that would be expected in each individual trait if producers select animals using the Self Replacing Selection Index. The graph reflects the relative change if the Beef Shorthorn Published Sires (at the June 2019 Beef Shorthorn BREEDPLAN 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.



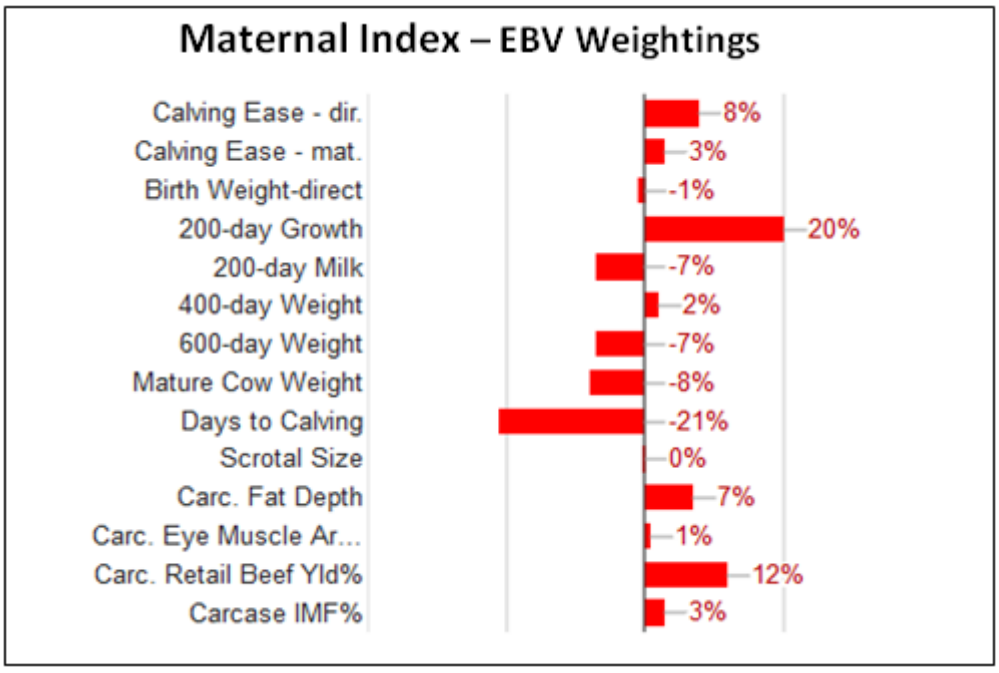
Beef Shorthorn Maternal Index

The Beef Shorthorn Maternal Index estimates the genetic differences between animals in net profitability per cow joined for an example Beef Shorthorn Euro cross commercial cow herd targeting the production of pasture grown calves. Steers and heifers are weaned and marketed at an average of 350kg live weight at 8 months of age for further finishing or as replacement heifers.

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 maternal herd where some progeny are assumed targeted for further finishing and some as replacement heifers



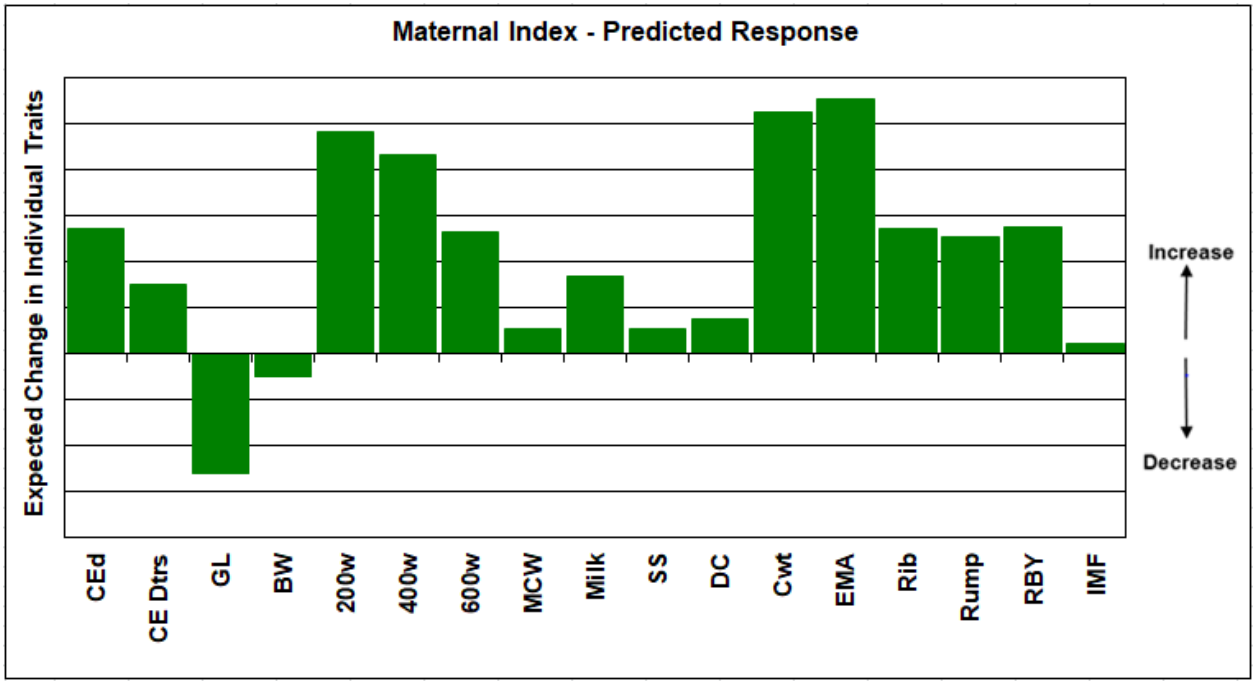
Considering the genetic relationship between the key profit drivers and the EBVs that are available, this transposes to the following EBV emphases. The sign indicates the direction of the emphasis. For example, greater 200 Day Growth EBVs and shorter Days to Calving EBVs are favoured.



July 2019

While the graphs on the previous page show the different profit drivers and emphases that have been placed on each EBV within the 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.

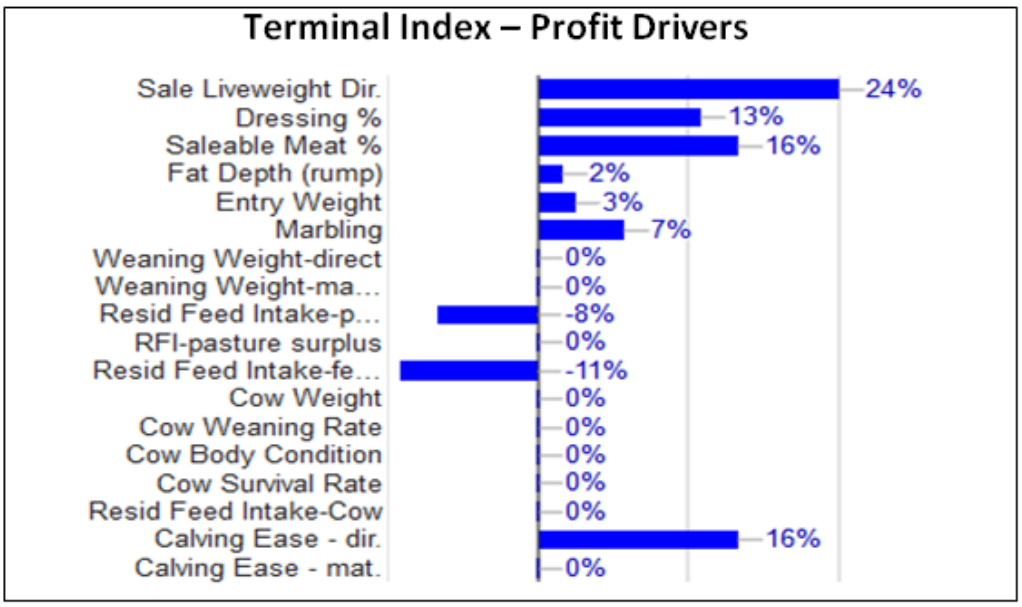
The following bar graph provides an indication of the relative change that would be expected in each individual trait if producers select animals using the Maternal Selection Index. The graph reflects the relative change if the Beef Shorthorn Published Sires (at the June 2019 Beef Shorthorn BREEDPLAN 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.



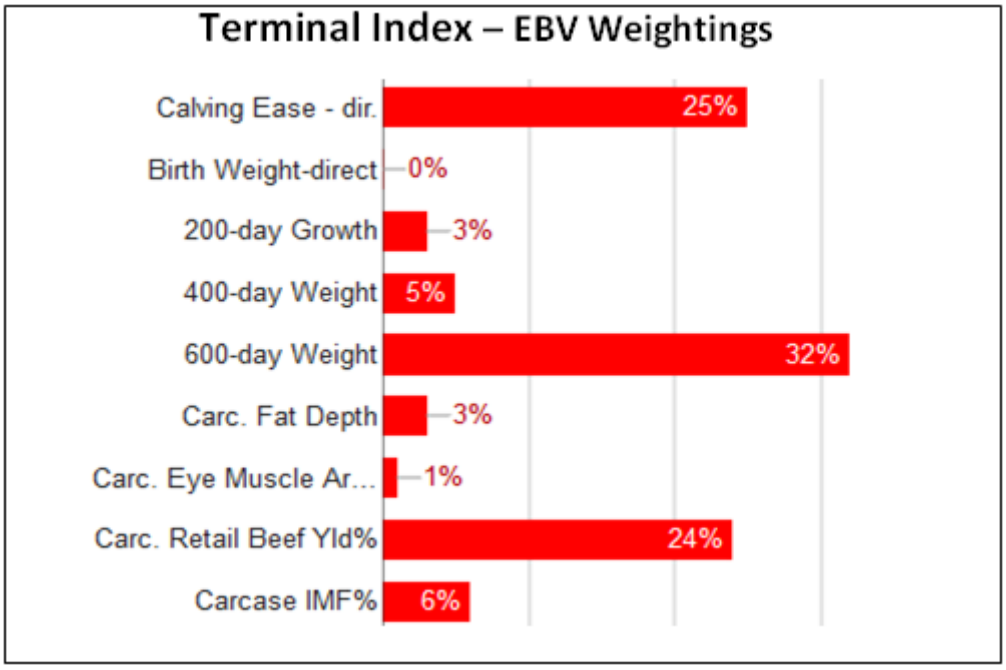
Beef Shorthorn Terminal Index

The Beef Shorthorn Terminal Index estimates the genetic differences between animals in net profitability per cow joined for an example Beef Shorthorn Euro cross commercial cow herd targeting the production of finishing heifers and steers (average 150 days on feed). The heifers and steers are then marketed at an average of 590kg live weight (320 kg carcase weight) at 21 months of age. All progeny are slaughtered

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 beef operation where all progeny are assumed to be for slaughter.



Considering the genetic relationship between the key profit drivers and the EBVs that are available, this transposes to the following EBV emphases.



July 2019

While the graphs on the previous page show the different profit drivers and emphases that have been placed on each EBV within the 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. The correlations between traits explain how traits that are of no importance to a terminal index (e.g. Milk and Days to Calving) can have a selection response.

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 Selection Index. The graph reflects the relative change if the Beef Shorthorn Published Sires (at the June 2019 Beef Shorthorn 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.