



WHAT IS A BREEDOBJECT \$INDEX?

A **BreedObject \$Index** is designed to give a comparison between animals within the Index based on profitability of their progeny within the commercial supply chain.

There are three types used for Australian Wagyu:

- Self-replacing Breed \$Index
- Fullblood Terminal \$Index
- F1 Terminal \$Index

For more information on [Self-replacing Breed \\$Index](#) and [F1 Terminal \\$Index](#), please refer to the relevant Fact Sheet. Further detailed information can be found in the [BreedObject \\$Index Background Fact Sheet](#) and [Technical Update](#).

FULLBLOOD TERMINAL \$INDEX

The new Fullblood Terminal Index has an increased weighting to the Marble Score EBV and can be used to select bulls for the production of profitable slaughter animals where no progeny are retained for breeding.

The Fullblood Terminal Index (FTI) is one of three new Wagyu selection indexes, which are calculated for animals within the Wagyu BREEDPLAN analysis.



Courtesy Don Arnold

CRITERIA	VALUE	
Weaning rate	85%	
Feedlot entry weight	- Steers	330 kg
	- Heifers	270 kg
Days on feed	- Steers	550 days
	- Heifers	450 days
Slaughter age	- Steers	32 months
	- Heifers	29 months
Carcase weight	- Steers	435 kg
	- Heifers	385 kg
Carcase price	- Steers	\$8.25/kg
	- Heifers	\$8.25/kg
Marbling premium	~\$1.00/MS	

THE PRODUCTION SYSTEM

The Fullblood Terminal Index estimates the genetic differences between animals in net profitability per cow joined in a commercial Fullblood or Purebred herd in which all progeny are sold as feeders for feedlot finishing.

Steers are assumed to be slaughtered at 32 months after 550 days of feedlot finishing targeting 435kg carcasses.

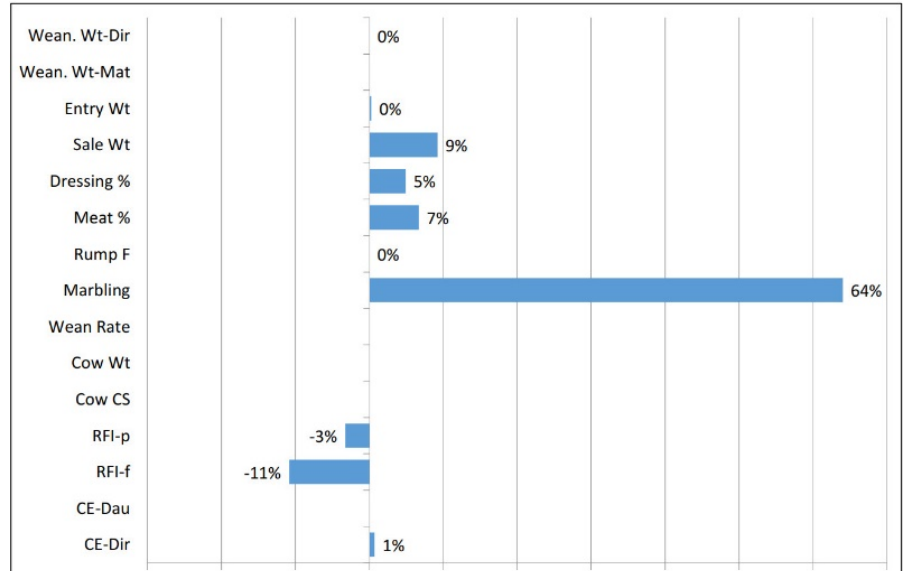
Heifers are slaughtered at 29 months after 450 days of feedlot finishing targeting 385kg carcasses. No heifers are retained for breeding and therefore maternal traits are not of importance in this \$Index. There is a significant premium for carcasses that exhibit superior marbling. Table 1 describes the targeted production system in more detail.

TABLE 1 Production systems for Fullblood Terminal Index

BREEDING OBJECTIVE

The key production traits for the Fullblood Terminal Index include marbling, sale weight and yield as shown in Figure 1, reflecting the underlying profit drivers in a commercial operation targeting this production system.

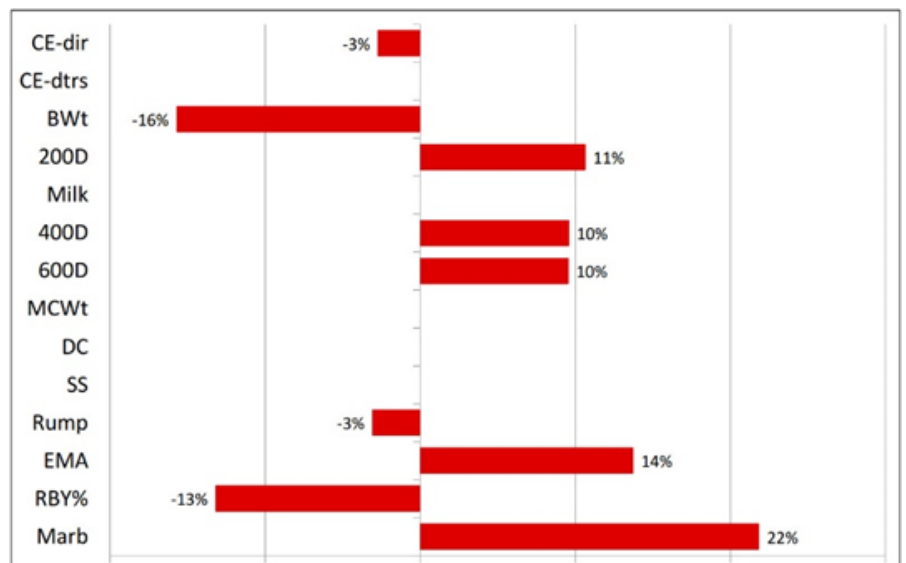
FIGURE 1 Emphasis placed on key production traits



SELECTION TRAITS

The genetic relationship between the breeding objective and selection traits highlights the emphasis that is placed, and available through EBVs as illustrated in Figure 2. EBVs with a positive bias are favoured – for example 600 Day Weight EBVs and lower Birth Weight EBVs.

FIGURE 2 Emphasis placed on EBVs



CALCULATION OF INDEX VALUES

Fullblood Terminal Index values are derived using BreedObject technology, as developed by the Animal Genetics and Breeding Unit (AGBU) in Armidale, NSW. Self-Replacing Breeding Index values are reported as Estimated Breeding Values (EBVs), in units of net profit per cow joined (\$) for this defined production system and market scenario.

INDICATIVE RESPONSE TO SELECTION

While the graphs of Figure 2 and 3 show the emphasis that have been placed on the production traits and each EBV within the Wagyu Fullblood Terminal Index, they do not illustrate the likely change that will occur to each individual EBV if producers select high ranking animals (top 10%) using this \$Index.

Trait	Change
Gestation Length	-0.33 days
Birth Weight	+0.8 kg
200 Day Weight	+6 kg
400 Day Weight	+10 kg
600 Day Weight	+16 kg
Mature Cow Weight	+14 kg
Milk	+0.7 kg
Scrotal Size	+0.7 cm
Carcase Weight	+17 kg
Eye Muscle Area	+1 cm ²
Rump Fat	0.9 mm
Retail Beef Yield	-0.07 %
Marble Score	+0.47 MS

Table 2 and Figure 3 provide an indication of the relative change that would be expected in each individual trait by selecting animals in the top 10% of the Fullblood Terminal Index.

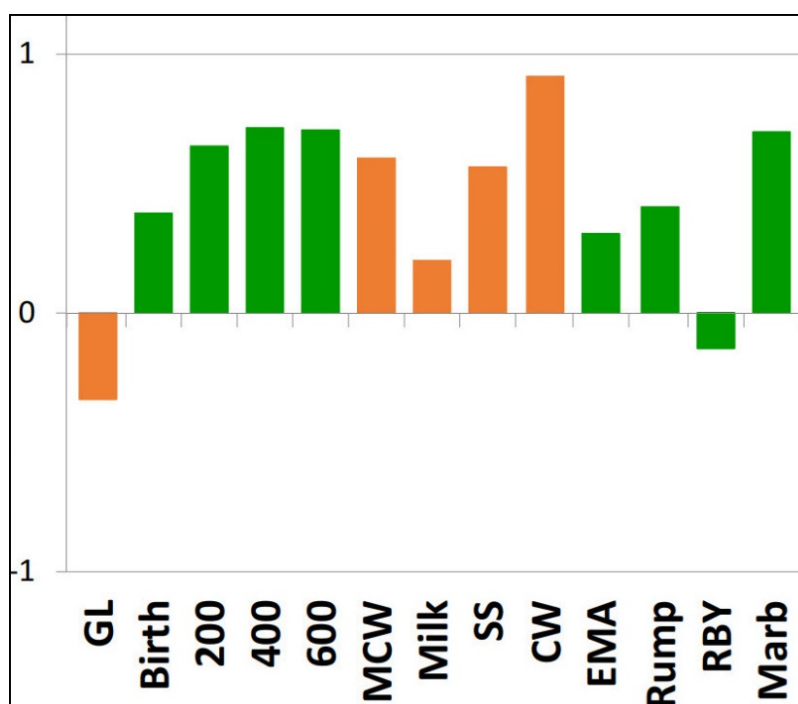


TABLE 2 Indicative response to selection of EBVs (above)

FIGURE 3 Indicative response to genetic std deviations selection

The indicative response reflects the change if the Wagyu Published Sires (at the August 2018 Wagyu GROUP BREEDPLAN analysis) were ranked on this selection index and the Top 10% selected for use within a breeding program.

The response will differ if a different group of animals was available for selection and/or a different selection intensity was applied.