AUSTRALIAN WAGYU ASSOCIATION™

FACTS AT A GLANCE

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WAGYU BREEDER $INDEX

The new Wagyu Breeder Index (WBI) can be used to select Fullblood bulls that will produce more profitable females with high genetic merit for growth and breed average slaughter progeny for marbling.

The WBI is suited to the production of steer progeny for high feedlot-entry weight and higher growth replacement females with larger calves well adapted to low-input, grass-based pastoral conditions.

The WBI is one of four Wagyu selection indexes which are calculated for animals within the Wagyu BREEDPLAN analysis:

- Wagyu Breeder $Index
- Self-replacing $Index
- Fullblood Terminal $Index
- F1 Terminal $Index

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 for the defined production system.

CALCULATION OF INDEX VALUES

Wagyu Breeder Index values are derived using BreedObject technology, as developed by the Animal Genetics & Breeding Unit (AGBU) in Armidale, NSW. Wagyu Breeder 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.

THE PRODUCTION SYSTEM

The Wagyu Breeder Index estimates the genetic differences between animals in net profitability per cow joined in a commercial Fullblood or Purebred self-replacing herd that has a low-input, grass-based production, typical of Australian pastoral systems. Heifers are retained for breeding and steers and surplus females are sold as feeders for feedlot finishing.

Steers are assumed to be slaughtered at 32 months after 550 days of feedlot finishing targeting 460kg carcases.

Heifers are retained for breeding and therefore maternal traits are of importance. Marbling is targeted at breed average to optimise growth and maternal traits. Table 1 describes the targeted production system in more detail.

Criteria		Value
Weaning Rate		85%
Feedlot entry weight	Steers	350kg
	Heifers	300kg
Days on feed	Steers	550 days
	Heifers	450 days
Slaughter age	Steers	32 months
	Heifers	29 months
Carcase weight	Steers	460kg
	Heifers	410kg
Carcase price @MS 5	Steers	$8.25/kg
	Heifers	$8.25/kg
Marbling premium to MS8		~$1.00/MS

Table 1 Production Systems for Wagyu Breeder Index

BREEDING OBJECTIVE

Figure 1 shows the key production traits that are important in the Wagyu Breeder Index, reflecting the underlying profit drivers in a commercial operation targeting this production system.

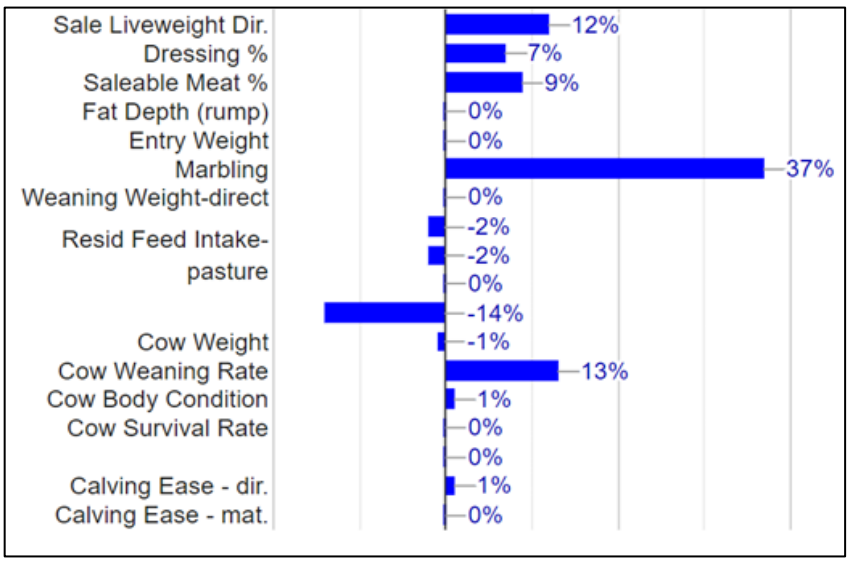

Figure 1 Emphasis placed on key production traits

HOW EBVS CONTRIBUTE TO THE INDEX

The genetic relationship between the breeding objective and selection traits highlights the emphasis that is placed on EBVs in calculating the WBI as illustrated in Figure 2. Emphasis on high 200 and 600 Day Weight EBVs are favoured, along with balanced emphasis on marbling (Carcase IMF% = Marble Score).

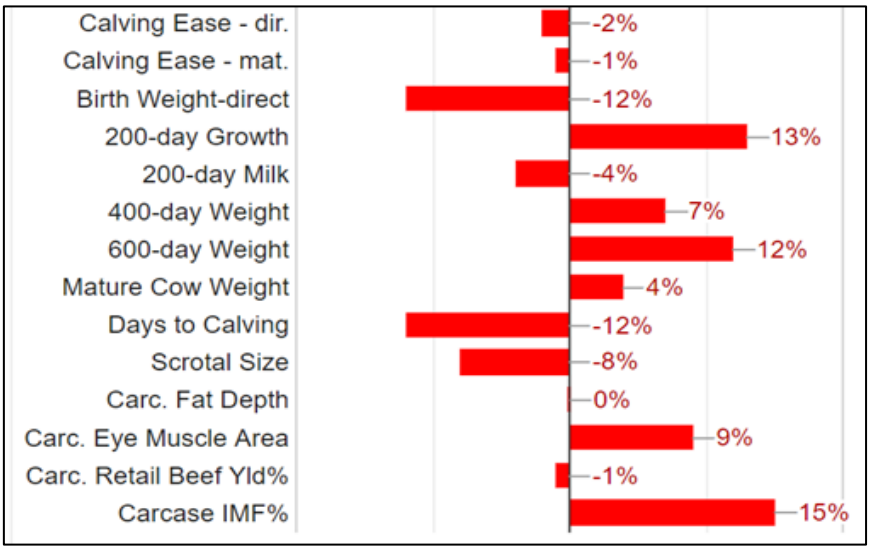

Figure 2 Emphasis placed on EBVs in calculating the WBI

INDICATIVE RESPONSE TO SELECTION

While the previous graphs show the emphasis that have been placed on the production traits and each EBV within the Wagyu Breeder 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.

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 Wagyu Breeder Index.

The indicative response reflects the change if the Wagyu Published Sires (at the June 2020 Wagyu GROUP BREEDPLAN analysis) which were ranked on this selection index and the average of the Top 10% were selected for use within a breeding program.

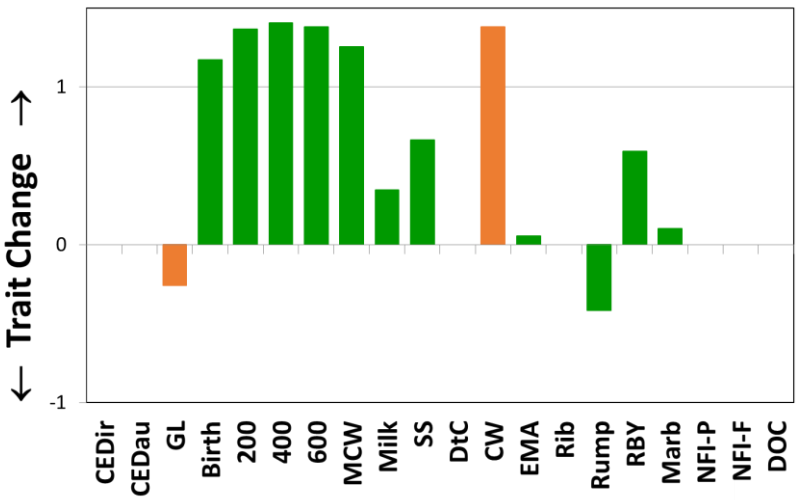

Figure 3 Indicative response to genetic std deviations selection

Table 2 Indicative response to selection of EBVs

Trait	Change
Gestation Length	-0.3 days
Birth Weight	+2.5 kg
200 Day Weight	+12 kg
400 Day Weight	+21 kg
600 Day Weight	+33 kg
Mature Cow Weight	+29 kg
Milk	+1.7 kg
Scrotal Size	+0.8 cm
Carcase Weight	+27 kg
Eye Muscle Area	+0.14 cm2
Rump Fat	-0.9 mm
Retail Beef Yield	+0.56 %
Marble Score	+0.07 MS

POINTS TO CONSIDER WHEN USING THE WAGYU BREEDING INDEX

Due to genetic relationships between traits, when selecting high ranking animals for the Wagyu Breeder Index, on average, there is positive pressure being placed on the Milk EBV. There is also significant pressure being placed on the Birthweight EBV. These levels will vary considerably between sires in the top 10% of this $Index. If breeders consider that managing birthweight is important for their production system, they can implement a threshold for birthweight in conjunction with ranking animals on the Wagyu Breeder Index.

The Wagyu Breeder Index is developed targeting high growth and a breed average carcase Marble Score outcome. On average, using animals in the top 10% of this index will have a slight positive response in marbling.