

# CONTENTS

- **INTRODUCTORY NOTES**
- **SIRES LIST**
- **DAMS LIST**
- **HEIFER CALVES**
- **STEER CALVES**
- **BULL CALVES**
- **HERD TRENDS**
  - **GENETIC**
  - **PHENOTYPIC**
  - **GRAPH (Herd vs. Breed)**
- **OVERALL BREED TRENDS (GREEN SHEET)**
- **PERCENTILE TABLE - ANIMALS BORN IN 2006 ONLY (YELLOW SHEET)**

## *Disclaimer*

*The Estimated Breeding Values (EBVs) and other information contained in this report were compiled from pedigree and performance data supplied by the breeders. Neither Simmental Australia nor the ABRI oversee or audit the collection of this data. These EBVs can only be directly compared to other EBVs calculated by Simmental GROUP BREEDPLAN in the same analysis or INTERIM analyses run after that GROUP analysis.*

# **2008 AUTUMN SIMMENTAL TRANS TASMAN GROUP BREEDPLAN**

## **1. INTRODUCTION**

The 2008 AUTUMN Simmental Trans Tasman GROUP BREEDPLAN evaluation has been analysed using the latest version of GROUP BREEDPLAN software (**version 4.3**).

### **Version 4.3 of GROUP BREEDPLAN software includes:**

- An enhanced procedure for including North American EPD information, supplied by the American and Canadian Simmental Associations
- The ability to calculate a Docility EBV
- The ability to calculate a Net Feed Intake EBV
- Revised carcass parameters – reflecting the latest research from the Beef CRC
- Revised adjustment factor files
- Increasing the maximum age for submission of scrotal measurements to 700 days of age
- Reducing the minimum carcass weight from 200 kg to 150 kg

This version of GROUP BREEDPLAN software also includes:

- allowance for re-ranking of sires when used in different herds
- allowance for differences in the variation of performance between herds
- an enhanced estimation procedure for generating EBVs for groups of base animals

Table 1 summarises the total amount of performance information included in the 2008 AUTUMN Simmental Trans Tasman GROUP BREEDPLAN evaluation.

**Table 1: Summary Statistics of the Analysis**

	Number of Sires	39,646	
	Number of dams	227,265	
	<b>RECORDS</b>		
<b>TRAITS</b>	<b>Australia</b>	<b>New Zealand</b>	<b>Total</b>
Gestation Length	78,695	7,267	85,962
Birth Weight	137,459	93,574	231,033
200 day weight *	79,545	93,830	173,375
400 day weight *	38,668	63,430	102,098
600 day weight *	22,879	38,809	61,688
Mature weight *	802	443	1,245
Days to Calving *	12,432	10,711	23,143
Scrotal Size	3,510	7,514	11,024
Scan *	6,523	13,047	19,570
Carcass *	123	0	123

\* animals with at least one observation

## **2. CHANGES INCLUDED IN THE CURRENT ANALYSIS**

### **A. Analysis Run Time**

Recent developments in analytical software and computing capability have required an increase in

the run time of the Simmental GROUP BREEDPLAN analyses. Although changes in EBVs for some animals may arise as a result of this, overall the changes are not expected to be large.

### 3. THE EBVs

The GROUP BREEDPLAN EBVs included in this report have been calculated from the records of individual herds on the integrated pedigree/performance databases of Simmental Australia and Simmental New Zealand. These records included:

- the animal's own performance
- the performance of **all known relatives**
- the performance of **all animals** over all years of recording
- the relationship between traits

The GROUP BREEDPLAN EBVs calculated in this analysis allow for the direct comparison of performance recorded Simmental animals in both Australia and New Zealand. As GROUP BREEDPLAN EBVs are calculated using all available information you can expect that your GROUP EBVs will differ from previous GROUP figures or previous Interim figures. In particular, the addition of extra pedigree and performance information from the two participating associations can cause changes from previous GROUP EBVs.

GROUP BREEDPLAN EBVs for a large number of economically important traits are included in this report. These traits are calving ease, gestation length, birth weight, milk, growth to 200 days, 400 day and 600 day weight, mature weight, scrotal size, days to calving, carcass weight, eye muscle area, rib and rump fat, retail beef yield percent and intra-muscular fat percent. For details on these traits please read the sheet titled "*Reading your 2008 AUTUMN Simmental Trans Tasman GROUP BREEDPLAN Report*" which is included in this report.

Not included in your herd report are the EBVs for Maternal Value, an index of maternal ability. As the Maternal Value EBV is an *index* of the EBVs for 200-Day Growth and 200-Day Milk, it is possible to calculate this EBV yourself by using the following formulae:

For sires:  $MV = \frac{1}{2} \text{Milk EBV} + \frac{1}{4} \text{200-Day Growth EBV}$ .

For dams:  $MV = \text{Milk EBV} + \frac{1}{2} \text{200-Day Growth EBV}$ .

As a set of benchmark figures that approximate the current genetic level for the breed, you will find the **average EBVs for all animals born in 2006** (Table 1) to be very useful. You can use these average EBVs to help you assess the relative ranking of animals for the various traits.

**Table 1.** Average EBVs for the 2006 born animals analysed in the 2008 AUTUMN Simmental GROUP BREEDPLAN.

CE Direct EBV	CE Dtrs EBV	Gest Length EBV	Birth Weight EBV	200-Day Growth EBV	400-Day Weight EBV	600-Day Weight EBV	Mature Weight EBV	200 Day Milk EBV
-0.2	-0.3	-0.3	+1.6	+15	+26	+26	+26	+8

Scrotal Size EBV	Days to Calving EBV	Carcass Weight EBV	EMA EBV	Rib Fat EBV	Rump Fat EBV	RBV% EBV	IMF% EBV
+0.3	-0.6	+17	+1.0	0.0	0.0	+0.3	+0.1

## 4. ACCURACY

An accuracy value is presented with every EBV and gives an indication of the amount of information that has been used in the calculation of that EBV. The higher the accuracy the lower the likelihood of change in the animal's EBV as more information is analysed for that animal or its relatives.

BREEDPLAN uses all available information to calculate EBVs and estimates EBVs of related (correlated) traits via indirect observations eg birth weight EBVs are estimated from 200-Day weight measurements. These correlated estimates will have lower accuracy.

The following guide may be useful for interpreting accuracy:

Accuracy range	Interpretation
less than 50%	- EBVs are preliminary and could change substantially as more performance information becomes available.
50-74%	- medium accuracy, usually based on the animal's own records and pedigree.
75-90%	- medium-high accuracy. Some progeny information included. It is unlikely that EBVs will change much with addition of more progeny data.
more than 90%	- high accuracy estimate of the animal's true breeding value.

**EBVs with less than 20% accuracy will not be reported.**

Accuracy cannot account for breeder-influenced data quality issues, such as how well management groups are defined.

It is important to keep accuracy in perspective. Accuracy and genetic merit are not the same things. It is possible for animals to have very low EBVs, but for these EBVs to be highly accurate. Conversely, animals may have high EBVs with low accuracy.

**Animals should be compared on EBVs regardless of accuracy.** However, where two animals have the same EBV, the animal with the higher accuracy would normally be used more heavily than the animal with the lower accuracy because the results are more predictable.

## 5. VISUAL APPRAISAL

Although EBVs provide an estimate of an animal's genetic merit for a range of production traits, they do not provide information for all of the traits that must be considered during selection of **functional** animals. In all situations, EBVs should be used in conjunction with visual assessment for other traits of importance (structural soundness, temperament, fertility etc). A recommended practice is to firstly select replacement breeding stock based on EBVs and to then select from this group to ensure that the final selections are visually acceptable.

## **6. REPORT LAYOUT**

This GROUP BREEDPLAN Herd Report gives you the GROUP EBVs for your animals and can be used to compare animals across herds that have Simmental GROUP BREEDPLAN EBVs.

Each Herd Report is made up of several sections. The first is the **Sire Report**, listing the sires of animals born in your herd and with progeny recorded on the Simmental database in the last 6 years. The sires are printed in ident order. Next is the **Dam Report** which lists currently owned active dams of calves recorded in the last 2 years (or other nominated period), sorted in Ident order. Finally, there are the **Calf Reports**, in which Heifers, Steers (if you have any) and Bulls are printed. These reports list all currently owned and active calves for the last 2 calving years (or other nominated period) that have performance in your herd.

Note that the numbers of progeny analysed that appear in the sire and dam reports are calculated from all herds in GROUP BREEDPLAN and so include progeny recorded in other herds and other societies.

There are a number of **Trend Reports** included at the back of your Herd Reports. The first Trend Reports on the white sheets are for your own herd, while the green sheets are Genetic Trend reports for the breed overall. **You can use the Trend reports to see how your herd has performed over the years compared to the breed average.**

The **Genetic Trend** reports show the average EBVs of the animals in your herd over the years. The **Phenotypic Trend** reports show the average adjusted value for each trait in each year that performance was reported for your herd. Also included are graphs showing the genetic trend for your herd relative to that of the breed.

The last page of your Herd report is the **Percentile Table (Yellow Sheet)**. This report refers to the percentile bands for **all animals born in 2006**. This Percentile Table can be used as a guide for the ranking of animals on GROUP BREEDPLAN EBVs across herds. By referring to this report you will be able to determine where your animal(s) rank in performance compared to the **current** genetic level of the breed as a whole.

## **7. MARKETING WITH GROUP BREEDPLAN EBVs**

**GROUP BREEDPLAN EBVs can be used to compare animals from different herds.** This means GROUP BREEDPLAN EBVs are by far the most logical choice for use in the marketing of your stock.

It is very important that **all** 2008 AUTUMN Simmental Trans Tasman GROUP BREEDPLAN EBVs used in catalogues be presented with their accuracy levels. It is also important to accompany your sale catalogue with notes explaining what these EBVs and accuracies are and how they have been calculated. An example of these explanatory notes is attached for your use. Buyers will then be in a position to purchase cattle on performance with confidence using GROUP BREEDPLAN EBVs.

## **8. CONTACT FOR SIMMENTAL BREEDPLAN**

If you have any questions regarding your AUTUMN 2008 SIMMENTAL GROUP BREEDPLAN herd report, publishing EBVs or interpretation of GROUP BREEDPLAN in general, please do not hesitate to contact:

SIMMENTAL BREEDPLAN

A.B.R.I.

University of New England

ARMIDALE NSW 2351

AUSTRALIA

Telephone: (02) 6773 3555

Facsimile: (02) 6772 5376

Email: [simmental@breedplan.une.edu.au](mailto:simmental@breedplan.une.edu.au)

# READING YOUR 2008 AUTUMN SIMMENTAL TRANS TASMAN GROUP BREEDPLAN HERD REPORT

01/03/08		2008 AUTUMN SIMMENTAL TRANS TASMAN GROUP BREEDPLAN BREEDPLAN															(Sires - with Progeny in the last 6 Years)							
Page 1 Herd : RMH EXAMPLE HERD		GROUP ESTIMATED BREEDING VALUES FOR SIREs															(Sorted in Ident order)							
EXAMPLE HERD		GROUP ESTIMATED BREEDING VALUES																						
ANIMAL NAME		Statistics				Calving-Ease - Birth				Growth				Fertility		Carcase								
Ident	Sire	Dam	Num Herd	Anly Total	Scan Carc	Dtrs ET	DIR acc	DTRS acc	GL acc	Bwt acc	200 acc	400 acc	600 acc	Mwt acc	MILK acc	SS acc	DC acc	Cwt acc	EMA acc	RIB acc	RUMP acc	RBY% acc	IMF% acc	
EXAMPLE SIRE			213	966	7	128	+9.5	+9.6	-4.4	+2.9	+18	+26	+40	+35	+6	+0.7	-1.9	+25	-1.1	-0.3	-0.2	0.0	+0.1	
*RMH P N0006	RMH P G0142	RMH P G0143		1327	0	50	87%	85%	97%	98%	98%	98%	97%	98%	93%	83%	95%	89%	92%	92%	87%	72%		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

**EBV:** Estimated Breeding Value is the estimated genetic merit of an animal for each recorded production trait. EBVs reflect the difference that can be expected in an animal's performance relative to the breed baseline of zero for each trait. On average, half of this difference will be passed on to the animal's progeny.

EBVs in this report are calculated from the available performance information on the animal, its parents, progeny and its close relatives across a number of herds. This information is adjusted for age at measure and dam age while allowing for differences between herds, years, season of calving, management effects and for mating and selection biases.

If no EBV is listed in an animal's record, then not enough information for the animal is available to report an EBV for the trait.

**ACC:** Accuracy (%) is based on the amount of performance information available on the animal and its close relatives - particularly the number of progeny analysed. Accuracy is also based on the heritability of the trait and the genetic correlations with other recorded traits. Hence accuracy indicates the "confidence level" of the EBV.

Accuracies range from 0-99% and indicate the probability of an EBV changing with the addition of more progeny data. The magnitude of possible change decreases as accuracy increases. Accuracies below 75% should be regarded as low, between 76-90% as medium and above 90% as high.

The accuracy is printed below the EBV for the sire and dam reports and beside the EBV for the calf reports.

1. \*: indicates that the animal has had a calf recorded in the latest year.
2. **ANIMAL NAME:** is the Society name for the animal.  
**IDENT:** is the Society ident for the animal.
3. **SIRE:** is the Society ident for the animal's sire.
4. **DAM:** is the Society ident for the animal's dam.
5. **NUM HERD:** is the number of Australian and New Zealand herds in which this animal has performance recorded progeny.
6. **ANLY:** is the number of Australian and New Zealand progeny of this animal that had performance information analysed.  
**TOTAL:** is the total number of Australian and New Zealand progeny of this animal that have been recorded on both databases.
7. **SCAN:** is the number of Australian and New Zealand progeny of this animal that had scan performance information analysed.  
**CARC:** is the number of Australian and New Zealand progeny of this animal that had abattoir carcase performance information analysed.
8. **DTRS:** is the number of this animal's daughters that have progeny performance recorded at 200 days. This is an indicator of the amount of direct information that is available to evaluate the Milk EBV for this animal.  
**ET:** is the total number of Australian and New Zealand embryo transfer progeny of this animal that have been recorded on both databases

			GROUP ESTIMATED BREEDING VALUES																					
ANIMAL NAME Ident	Sire	Dam	Statistics				Calving-Ease		- Birth -		Growth				Fertility		Carcase							
			Num Herd	Anly Total	Scan Carc	Dtrs ET	DIR acc	DTRS acc	GL acc	Bwt acc	200 acc	400 acc	600 acc	Mwt acc	MILK acc	SS acc	DC acc	Cwt acc	EMA acc	RIB acc	RUMP acc	RBV% acc	IMF% acc	
EXAMPLE SIRE *RMH P N0006	RMH P G0142	RMH P G0143	213 1327	966	7 0	128 50	+9.5 87%	+9.6 85%	-4.4 97%	+2.9 98%	+18 98%	+26 98%	+40 98%	+35 97%	+6 98%	+0.7 93%	-1.9 83%	+25 95%	-1.1 89%	-0.3 92%	-0.2 92%	0.0 87%	+0.1 72%	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

9. **CALVING EASE** EBVs are based on calving ease (CE) scores, birth weights and gestation length information. More positive EBVs indicate easier calving.

**DIR:** Direct CE indicates how this animal influences the birth of its progeny.

**DTRS:** Daughter's CE indicates how well the animal produces daughters that have easier calving.

10. **GL:** Gestation Length EBV (days) is based on AI records. Lower (negative) GL EBVs indicate easier calving and increased growth after birth.

11. **BWT:** Birth Weight EBV (kg) is based on the measured birth weight of animals, adjusted for dam age. The lower the value the lighter the calf at birth and the lower the likelihood of a difficult birth. This is particularly important when selecting sires for use over heifers.

12. **200:** 200-Day Growth EBV (kg) is calculated from the weight of animals taken between 80 and 300 days of age. Values are adjusted to 200 days and for dam age. This EBV is the best single estimate of an animal's genetic merit for growth to early ages.

13. **400:** 400-Day Weight EBV (kg) is calculated from the weight of progeny taken between 301 and 500 days of age, adjusted to 400 days and for dam age. This EBV is the best single estimate of an animal's genetic merit for yearling weight.

14. **600:** 600-Day Weight EBV (kg) is calculated from the weight of progeny taken between 501 and 900 days of age, adjusted to 600 days and for dam age. This EBV is the best single estimate of an animal's genetic merit for growth beyond yearling age.

16. **MWT:** Mature Cow Weight EBV (kg) is an estimate of the genetic difference in cow weight at 5 years of age, and is an indicator of growth at later ages and potential feed maintenance requirements of the females in the breeding herd. Smaller, or more moderate EBVs are generally more favourable.

17. **MILK:** 200-Day Milk EBV (kg) is an estimate of an animal's milking ability. For sires, this EBV is indicative of their daughter's milking ability as it affects the 200 day weight of the daughters' calves.

18. **SS:** Scrotal Size EBV (cm) is an indicator of male fertility in regards to semen quality and quantity. Higher (positive) EBVs indicate higher fertility. SS is also positively associated with female fertility.

19. **DC:** Days to Calving EBV (days) is an indicator of female fertility based on the time between the cows first exposure to a bull and when she subsequently calved. Cows that calve late in the season or fail to calve are penalised. This is more useful as a sire trait. Lower (negative) EBVs are preferred indicating shorter days to calving for the sire's daughters.

20. **CWT:** Carcase Weight EBV (kg) estimates the genetic difference in carcase weight and is adjusted to 650 days of age. This is estimated from actual abattoir data where available, otherwise from correlations to the growth traits.

21. **EMA:** Eye Muscle Area EBV (cm<sup>2</sup>) estimates genetic differences in eye muscle area at the 12/13<sup>th</sup> rib site of a 300kg dressed weight carcase. More positive EBVs indicate better muscling on animals.

- 22. RIB:** Rib Fat EBV (mm) estimates the genetic differences in fat depth at the 12/13<sup>th</sup> rib in a 300kg dressed weight carcass. More positive EBVs indicate more subcutaneous fat and earlier maturity.
- 23. RUMP:** Rump Fat EBV (mm) estimates the genetic differences in fat depth at the P8 site of a 300kg dressed weight carcass. More positive EBVs indicate more subcutaneous fat and earlier maturity. Two fat EBVs are listed as there is variation between animals regarding fat depth at the two sites.
- 24. RBY%:** Retail Beef Yield Percent EBV (%) represents total (boned out) meat yield as a percentage of a 300kg dressed carcass. A more positive EBV indicates higher percentage yield for the 300kg carcass size.
- 25. IMF%:** Intra-muscular Fat Percent EBV (%) is an estimate of the genetic difference in the percentage of intra-muscular fat (marbling) at the 12/13<sup>th</sup> rib site in a 300kg carcass. Depending on market targets, larger more positive values are generally more favourable.

#### SPECIFIC TO THE DAM REPORT

**Heading:** In the top right hand corner of your dam report you will see the selection criterion for your dams. This is usually (*Active Dams - with Progeny in the last 2 years*). This means that cows are only included if they are active in the herd and have had a recorded calf born in the last 2 years. Underneath this is the sort order (usually sorted in Ident order).

**ICLF:** Is the age in years at which the dam had her first calf (which is recorded on the Society database).

**CINT:** Average Calving Interval (days) is the average time between successive calves. For Donor dams that have been in an ET program, "dnr" is printed.

**MILK:** Is an estimate of an animal's genetic merit for milk. For dams it indicates their own genetic potential for milk (based on the 200 day weight of their calves).

#### SPECIFIC TO THE CALF REPORTS

**Heading:** In the top right hand corner of your calf report(s) you will see the selection criterion for your calves. This is usually (*Active calves younger than 2 years*). This means that calves are only included if they are active in the herd and have been born in the last 2 years. Underneath this is the sort order (usually sorted

in Ident order).

**BIRTH DATE:** is the calf's date of birth (day/month/year).

**TRAIT INDICATORS:** This lists the traits that can be recorded for Simmental BREEDPLAN. For 200, 400 and 600-Day Weights two records can be recorded. If the calf has one observation for a trait a letter will be printed (e.g W) represents one 200-Day weight observation. For two observations for the trait the number 2 is printed. A blank indicates that the calf was not measured for this trait.

Heading	G	B	2	4	6	S	E	R	P	I	C
Trait	GL	BWT	200	400	600	SS	EMA*	RIB	P8*	IMF%	Carcass
								*		*	#

\* Live animal ultrasound scan data - measured by an accredited technician.

# Abattoir carcass data - one or more traits measured on the carcass at the abattoir.

#### TREND REPORTS

##### **Genetic Trend Reports**

These reports give the average EBVs for your herd for each trait for animals born in the nominated year. They show the cumulative change in EBVs. The number of calves indicates the total number of calves with an EBV for the trait. The genetic trend for dams is the average EBV of the dams of these calves. Also included are graphs showing the herd genetic trends for the weight, carcass, calving and fertility traits.

##### **Phenotypic Trend Reports**

These reports give the average, adjusted performance of all calves (by sex) in your herd born in the nominated year. Performance is adjusted for age at measure and dam age. Each sex is reported separately. The trends will reflect variation in pasture quality and quantity, management and genetic trends from year to year. The number of observations represent the number of animals born in the nominated year with a performance record for the trait. This report is of relevance to your herd so that you can see the fluctuations in your animals adjusted performance from year to year. Phenotypic trend reports are **not** comparable between herds.

##### **Overall Genetic Trends for the Breed**

The reports for the overall genetic breed trends are identical to the individual herd genetic trend reports except that they include the performance information from all

herds analysed in the AUTUMN 2008 SIMMENTAL TRANS TASMAN GROUP BREEDPLAN analysis. Also included are graphs comparing your own herd's genetic trend with the breed trend for each trait, so that you will be able to gauge whether your herd is above or below the breed average.

### **PERCENTILES REPORT**

The last page of your Herd report is the **Percentile Table (Yellow Sheet)**. This report refers to the percentile bands for **all animals born in 2006**. This Percentile Table can be used as a guide for the ranking of animals on GROUP BREEDPLAN EBVs across herds. By referring to this report you will be able to determine where your animal(s) rank in performance compared to the **current** genetic level of the breed as a whole.

## **EXPLANATORY NOTES FOR CATALOGUES**

**Only 2008 AUTUMN Simmental Trans Tasman GROUP BREEDPLAN EBVs or Interim EBVs with Accuracy (Acc) can be validly compared between Simmental herds.**

### **ESTIMATED BREEDING VALUES (EBVs)**

The EBV is the best estimate of an animal's genetic merit for that trait.

### **ACCURACY**

An accuracy is presented with every EBV and gives an indication of the amount of information that has been used in the calculation of that EBV. The higher the accuracy the lower the likelihood of change in the animal's EBV as more information is analysed for that animal or its relatives. Accuracy below 75% should be considered low.

### **CALVING EASE**

EBVs are based on calving ease (CE) scores, birth weights and gestation length information. More positive EBVs are favourable and indicate easier calving.

**DIR:** Direct calving ease indicates how this animal influences the birth of its progeny.

**DTRS:** Daughter's calving ease indicates how well the animal produces daughters that have easier calving.

### **BIRTH**

**GL:** Gestation Length EBV (days) is based on AI records. Lower (negative) GL EBVs indicate easier calving and increased growth after birth.

**BWT:** Birth Weight EBV (kg) is based on the measured birth weight of animals, adjusted for dam age. The lower the value the lighter the calf at birth and the lower the likelihood of a difficult birth. This is particularly important when selecting sires for use over heifers.

### **GROWTH**

**200:** 200-Day Growth EBV (kg) is calculated from the weight of animals taken between 80 and 300 days of age. Values are adjusted to 200 days and for age of dam. This EBV is the best single estimate of an animal's genetic merit for growth to early ages.

**400:** 400-Day Weight EBV (kg) is calculated from the weight of progeny taken between 301 and 500 days of age, adjusted to 400 days and for age of dam. This EBV is the best single estimate of an animal's genetic merit for yearling weight.

**600:** 600-Day Weight EBV (kg) is calculated from the weight of progeny taken between 501 and 900 days of age, adjusted to 600 days and for age of dam. This EBV is the best single estimate of an animal's genetic merit for growth beyond yearling age.

**MWT:** Mature Cow Weight EBV (kg) is an estimate of the genetic difference in cow weight at 5 years of age.

**MILK:** 200-Day Milk EBV (kg) is an estimate of an animal's milking ability. For sires, this EBV is indicative of their daughter's milking ability as it affects the 200 and 400 day weight of their calves.

### **FERTILITY**

**SS:** Scrotal Size EBV (cm) is an indicator of male fertility in regards to semen quality and quantity. Higher (positive) EBVs indicate higher fertility. SS is also positively associated with female fertility.

**DC:** Days to Calving EBV (days) is an indicator of genetic differences in female fertility, expressed as the number of days from the start of the joining period until subsequent calving. Lower (negative) EBVs indicate more favourable female fertility.

### **CARCASE**

**CWT:** Carcase Weight EBV (kg) estimates the genetic difference in carcase weight at a standard age of 650 days.

**EMA:** Eye Muscle Area EBV (cm<sup>2</sup>) estimates genetic differences in eye muscle area at the 12/13<sup>th</sup> rib site of a 300kg dressed carcase. More positive EBVs indicate better muscling on animals.

**RIB:** Rib Fat EBV (mm) estimates the genetic differences in fat depth at the 12/13<sup>th</sup> rib in a 300kg dressed carcase. More positive EBVs indicate more subcutaneous fat and earlier maturity.

**RUMP:** Rump Fat EBV (mm) estimates the genetic differences in fat depth at the P8 site of a 300kg dressed carcase. More positive EBVs indicate more subcutaneous fat and earlier maturity.

**RBV%:** Retail Beef Yield Percent EBV (%) represents total (boned out) meat yield as a percentage of a 300kg dressed carcase. A more positive EBV indicates higher percentage yield for the 300kg carcase size.

**IMF%:** Intra-muscular Fat Percent EBV (%) is an estimate of the genetic difference in the percentage of intra-muscular fat at the 12/13<sup>th</sup> rib site in a 300kg carcase. Depending on market targets, larger more positive values are generally more favourable.

The following disclaimer should also be included in your sale catalogue:

The Simmental Trans Tasman GROUP BREEDPLAN Estimated Breeding Values contained in this Sale Catalogue were compiled by the Agricultural Business Research Institute (ABRI) from data supplied by the breeders. Neither Simmental Australia, Simmental New Zealand nor the ABRI oversee or audit the collection of this data.