Multibreed EBVs

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- BREEDPLAN EBVs (Estimated Breeding Values), are widely used by bull buyers and breeders. Currently however, all breeds have their own bases, so within breed EBVs of one breed cannot be directly compared with EBVs of another breed.
- To improve this situation, industry has funded the development of 'multibreed EBVs' or ways to put breeds onto a common base.
- Using data from the CRC and a Victorian multibreed experiment and with MLA funding support, the Animal Breeding and Genetics Unit (AGBU), has developed Australia's first conversion table for BREEDPLAN multi-breed EBVs. (March '03, see below)
- Sufficiently accurate comparisons of four breeds for birth, growth and carcase weight traits have initially been possible. More breeds and traits will be added as new data becomes available.

Table 1. Multibreed EBV Adjustment Table (March 2003)

To produce multi-breed EBVs, add to an animal's existing within breed BREEDPLAN EBV for each trait, the amount listed in this Table. (This is not a breed comparison table. See table 2)

	TRAITS					
	Gest. length	Birth Wt	200d Wt	400d Wt	600d Wt	Carcase Wt
Angus	0	0	0	0	0	0
Poll/Hereford	1.1	2.8	9	21	16	8
Limousin	9.2	6.4	13	25	17	20
Simmental	6.4	8.7	31	63	71	n/a

n/a - Insufficient data at present

- Using table 1: To compare an Angus bull with a birth weight EBV from Angus BREEDPLAN with a Limousin bull with its Limousin BREEDPLAN birth weight EBV, add from Table 1, 0 to the Angus EBV and 6.4 to the Limousin EBV. This is further illustrated in Table 2 where **average** within breed EBVs for 2001 born animals have been converted to multi-breed EBVs by this method. Note: Like EBVs the adjustments may change over time, so check the date of such tables to see if a more recent table has been produced.

Table 2. Examples of Multibreed EBVs (adjustments from Table 1 added to breed average within breed BREEDPLAN EBVs for 2001 born animals

Breed	Gestation Length EBV			Birth WT EBV			400 d WT EBV			Carcase WT EBV		
	Breed Av.	Adjust. factor	Multi-Breed	Breed Av.	Adjust. factor	Multi-Breed	Breed Av.	Adjust. factor	Multi-Breed	Breed Av.	Adjust. factor	Multi-Breed
Angus	-1.3	+0.0	**-1.3**	4.0	+0.0	**4.0**	52	+0	**52**	33	+0	**33**
Poll/Hereford	0.0	+1.1	**+1.1**	4.0	+2.8	**6.8**	32	+21	**53**	27	+8	**35**
Limousin	-0.5	+9.2	**+8.7**	1.3	+6.4	**7.7**	19	+25	**44**	16	+20	**36**
Simmental	-0.2	+6.4	**+6.2**	1.7	+8.7	**10.4**	23	+63	**86**	n/a	n/a	n/a

Using Multibreed EBVs

- Stud breeders may compare their stock with other breeds and perhaps review selection priorities.
- Crossbreeders and composite developers can better select breeds and sires to use. In crossbreeding situations, Multibreed EBVs only hold if the bulls being compared are to be mated to the same, unrelated breed. Eg: if breed average 2001 drop Simmental and Angus bulls were mated to Shorthorn cows. From Table 2, the Simmental/Shorthorn cross calves are predicted to be 3.2kg heavier at birth(half the difference between their respective multibreed EBVs of 10.4 and 4) than the Angus/Shorthorn crosses. At 600 days the Simmental crosses are predicted to be 17kg heavier(86-52/2).