BREEDPLAN EBV's

1. What is an EBV?

An animal's breeding value can be defined as its genetic merit for each trait. While it is not possible to determine an animal's true breeding value, it is possible to estimate it.

These estimates of an animal's true breeding value are called EBVs (Estimated Breeding Values).

EBVs are expressed as the difference between an individual animal's genetics and the genetic base to which the animal is compared. EBVs are reported in the units in which the measurements are taken (e.g. kilograms for the weight EBVs). Thus a value of +12 kg for 400 day weight means the animal is genetically superior by 12 kg at 400 days compared with the genetic base of the relevant cattle population. On average, half of this difference will be passed on to the animal's progeny.

2. What EBVs are available?

BREEDPLAN produces EBVs for a range of economically important traits. These traits currently include:

Weight	Fertility/Calving	Carcase	Other
Birth Weight	Scrotal Size	Eye Muscle Area	Docility (Tameness)
Milk	Days to Calving	Fat Depth	Net Feed Intake*
200 Day Growth	Gestation Length	Retail Beef Yield	Structural Soundness*
400 Day Weight	Calving Ease	Intramuscular Fat	Flight Time*
600 Day Weight		Carcase Weight	
Mature Cow Weigh		Shear Force*	

3. EBV accuracy

When evaluating any EBV, it is also important to consider the EBV "accuracy". By definition, an EBV is an estimate of an animal's true breeding value. To provide breeders with a measure of the reliability of the estimate, BREEDPLAN produces an "accuracy" figure with each EBV. The "accuracy" provides a measure of the stability of the 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, its progeny or its relatives.

The following guide may be useful for interpreting accuracy:

- **Less than 50% accuracy** - the EBVs are preliminary. EBVs in this range will have been calculated based on very little information. These EBVs could change substantially as more direct performance information becomes available on the animal.

- **50-74% accuracy** - the EBVs are of medium accuracy. EBVs in this range will usually have been calculated based on the animal's own performance and some limited pedigree information.

- **75-90% accuracy** - the EBVs are of medium-high accuracy. EBVs in this range will usually have been calculated based on the animal's own performance coupled with the performance for a small number of the animal's progeny.

- **more than 90% accuracy** - the EBVs are a high accuracy estimate of the animal's true breeding value. It is unlikely that EBVs will change considerably with addition of more progeny data.

Although the accuracy of an EBV should be considered, animals should be compared on EBVs regardless of accuracy. Where two animals have the same EBV however, the animal with the higher accuracy would normally be used more heavily than the bull with the lower accuracy because the results can be predicted with more confidence.

4. Visual appraisal

Although EBVs provide an estimate of an animal's genetic merit for a wide range of traits, they do not provide information for all the traits that must be considered during the selection of functional cattle. In all situations, EBVs should be used in conjunction with visual assessment for other traits of importance (e.g. structural soundness, temperament).