

## **Calculating EBVs for Introduced Animals**

Most herds at some stage introduce cattle into their herd that do not have EBVs. These may be overseas animals or simply animals from herds that are not members of BREEDPLAN. One common question is what “starting EBV value” will these animals be assigned by BREEDPLAN.

### **How does BREEDPLAN calculate EBVs for “introduced” animals?**

When new animals are first introduced into GROUP BREEDPLAN (eg. overseas genetics, commercial herds, stud herds beginning performance recording), their EBVs do not simply start at "0" for all traits.

The new animals are assigned a starting value that reflects the origin of the genetics and the expectation of these genetics over time and across herds and is determined by similar animals in the analysis (called a genetic group). The average of these animals starting values is called the genetic group solution. In GROUP BREEDPLAN, the genetic groups are potentially formed based on their age, country of origin or breed. The exact criteria determining which genetic groups are formed will vary depending on the GROUP BREEDPLAN analysis in which the animals are being analysed.

In layman terms, the introduced animal is given a starting value that reflects the average EBVs for “similar” introduced animals. The definition of a “similar” animal will vary but can potentially include animals that are of similar age, breed or country of origin. As the introduced animal gets information recorded in the GROUP BREEDPLAN analysis (eg. for its progeny), its EBVs will change to reflect this information, rather than the "starting" value it was assigned.

### **What about animals that already have EBVs/EPDs in another genetic evaluation (eg. Overseas animals) ?**

In addition to the above process of assigning a “starting” value to introduced animals, in situations where the introduced animals have also been evaluated in another analysis (eg. an overseas genetic evaluation), it is possible to enhance the “starting value” of these animals by importing their EPDs/EBVs from the other evaluation.

The imported EPDs/EBVs are used to adjust the “starting value” of the introduced animals around the average of their genetic group. That is, rather than starting at the same point (based on their genetic group solution), their overseas EPDs are used to rank them around the average of their genetic group.

For the technically minded, the BREEDPLAN analysis includes the imported EPDs/EBVs by converting the information into local progeny equivalents for the traits of interest. This converted information is then used to enhance the "starting point" for the animal in the GROUP BREEDPLAN analysis. As the animal get more performance information recorded, the GROUP BREEDPLAN analysis starts to take more notice of this performance and less of the starting information so that, over time, the introduced animals will get EBVs based on local information (rather than their imported EPDs/EBVs).

### Other Important Points

- ❑ The length of time it takes before the EBVs that are calculated for introduced animals reflect the performance information that has been recorded in the local analysis (ie. less of the starting information) will vary from trait to trait. For example, weight traits will generally quickly reflect local performance, however it will take longer for the maternal & fertility traits (eg. milk, days to calving) as it takes a greater length of time before this information can be recorded.
- ❑ It is important to note that the “starting value” for each animal is not set prior to the BREEDPLAN analysis but is determined within each GROUP BREEDPLAN evaluation. Therefore, the starting value may change over time as the level of performance information of relevance to them increases.
- ❑ The exact procedure for assigning the “starting value” for an animal will vary depending on the BREEDPLAN analysis in which the animal is being analysed. The procedure varies depending upon what criteria are being used to form the genetic groups and whether EPDs/EBVs from other evaluations are being imported. For exact details regarding a particular analysis, please contact staff at BREEDPLAN.

*For more information regarding the calculation of EBVs for “introduced” animals, please contact staff at BREEDPLAN*