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Herefords Australia BREEDPLAN updated FAQs November 2024

The October Hereford BREEDPLAN analysis has been completed and published, incorporating two enhancements in particular likely to have caused some changes to EBVs as well as the current breed average and the percentile bands. The first of these is a change to the weighting that is used to combine relationship information that comes from pedigree records and from genomic tests. The second is the implementation of a new Single-Step Calving Ease analysis.

In addition to these changes there have also been two new indexes published for the first time, Sustainability Production Index and MSA Production Index, replacing the four existing indexes.

To help keep members informed about what has caused changes to the EBVs and Indexes for their animals we have compiled a list of Frequently Asked Questions shown below.

For more detailed information about these changes please see the [Hereford BREEDPLAN analysis updates](#) article on the Herefords Australia website.

FAQs

Why have the Calving Ease EBVs for animals in my herd changed?

There have been changes to the model that is used to calculate Calving Ease EBVs. These changes include moving to a Single-Step Calving Ease analysis that includes genomic information for the first time and also changes to how contemporary groups are formed.

Hereford BREEDPLAN changed to a Single-Step analysis in 2017, however at the time the method to analyse Calving Ease the same way had not been developed. The current update brings Calving Ease into line with the rest of the analysis. These changes mean that more animals are now included in the Calving Ease analysis and there is significantly more data being used. This gives us access to much higher accuracy Calving Ease EBVs and means that we can make faster rates of genetic improvement for these traits.

Have animals changed in their ranking for Calving Ease?

Yes. These updates mean that we now see a greater range in Calving Ease EBVs within the Hereford breed and we also see updated rankings for animals within the breed. This has happened because of the high number of animals with Calving Ease data now in the analysis and a better understanding of the relationship between animals due to the use of genomics.

It is important to compare the updated EBVs for your animals to the updated percentile bands for Calving Ease to understand where your animals rank within the breed.

With more animals with Calving Ease EBVs, greater genetic variation being identified within the breed and higher accuracy EBVs, these changes will help Hereford breeders make faster rates of genetic improvement for calving ease.



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What has caused my animals' EBVs for other traits to move?

Separately to the updates to the Calving Ease model, there has been a change to the weighting that is used to combine relationship information that comes from pedigree records and from genomic tests used to calculate EBVs for all traits. This weighting (referred to as Lambda) has been changed from 0.50 to 0.95. This means that the proportion of genes that animals share is more strongly influenced by genotype.

What does the change to the weighting on genomic information mean?

The change to a higher weighting on genomic relationship information means that all animals in the analysis, particularly those with genotypes, are getting higher accuracy EBVs. This in turn means that we are able to make faster rates of genetic progress.

This improvement has come from a much better understanding of the actual relationship between known relatives allowing us to get better use of their phenotypes. But it also means that now we have a better understanding of the relationship between animals where no recorded pedigree links are available, again allowing better use of more phenotypes.

These changes have caused some relatively small changes to animals' EBVs for traits that were already being analysed using the Single Step method.

What does the change to the weighting on genomic information NOT mean?

This does not mean that genotypes are now more important than phenotypes. It does not mean that phenotypes only account for 5% of an animal's EBV.

Phenotypic data is still being used in the same way in the BREEDPLAN analysis and is critically important. It is the relationship between animals that allows us to make use of other animals' phenotypes that has been updated.

Why are there different indexes being reported for my animals?

As of the October 2024 BREEDPLAN analysis Herefords Australia released two new indexes, the Sustainability Production Index and the MSA Production Index.

The new indexes were published to the website and in herd reports as of the November BREEDPLAN analysis date. The four indexes previously reported by Hereford BREEDPLAN have been removed as of the November analysis.