



Update on Beef Validation

Background

The validation of genetic evaluation models is well established in the dairy cattle industry. However, structural differences between the dairy and beef industries mean that validation methods commonly used in dairy cattle cannot be directly applied to beef cattle evaluations.

For this reason, the Interbull Centre has been working in recent years on adapting existing methodologies and developing alternative validation approaches suitable for beef cattle evaluations.

As part of this work, efforts have focused on adapting Interbull Method II for beef cattle evaluations (see Guidelines on Beef Validation Report, 2025). In addition, from late 2025 through the present (May 2026), work has also been carried out on the Linear Regression (LR) method described by Legarra and Reverter (2018).

Work Performed and Achievements

The work on adapting Interbull Method II was completed in 2025, resulting in a set of guidelines that will be published as part of a new section in the ICAR guidelines on international beef evaluations and validation.

The Linear Regression (LR) method has also been investigated, primarily to determine criteria for effectively selecting the focal group for the validation process. The parameters required for this method are relatively straightforward to estimate. However, the main challenge lies in defining which animals to include in the test population, as sufficient numbers are not always available to ensure an effective validation procedure.

In this context, work has focused on evaluating criteria based on differences between evaluations performed using complete and partial datasets, including:

- progeny differences,
- reliabilities, and
- effective record contribution.

Initial validation tests have already been carried out. However, definitive criteria for selecting the focal group have not yet been fully established. The next steps of this project involve developing a standardized framework to identify and communicate to





International Bull Evaluation Service

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participating countries breed/trait group evaluations that exhibit unacceptable levels of bias or dispersion in the models submitted to Interbeef.

References

Legarra, A., & Reverter, A. (2018). Semi-parametric estimates of population accuracy and bias of predictions of breeding values and future phenotypes using the LR method. *Genetics Selection Evolution*, 50(1), 53. doi: 10.1186/s12711-018-0426-6



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