

Livestock Breeding and Genomics - Solution 12

Peter von Rohr

2023-12-01

Problem 1: Accuracy of Predicted Breeding Values

Use the dataset given below to predict breeding values for the response variable **Weight** using a BLUP animal model. The model contains **Herd** as fixed effect and **BreastCircumference** as regression covariate. Compute reliabilities ($B\%$) for all predicted breeding values.

Hints

- The phenotypic variance σ_p^2 can be computed from the variance of the weight values given in the dataset.
- Heritability (h^2) is assumed to be 0.25 for the trait **Weight**.

Data

The dataset is available from

https://charlotte-ngs.github.io/lbgfs2023/data/beef_data_blup.csv

Solution