Abstract

Objective. This paper presents extensions to the statistical validation method based on the procedure of Freese when a model shows constant bias (CB) in its predictions and illustrate the method with data from a new mechanistic model that predict weight gain in cattle. Materials and methods. The extensions were the hypothesis tests and maximum anticipated error for the alternative approach, and the confidence interval for a quantile of the distribution of errors. Results. The model evaluated showed CB, once the CB is removed and with a confidence level of 95%, the magnitude of the error does not exceed 0.575 kg. Therefore, the validated model can be used to predict the daily weight gain of cattle, although it will require an adjustment in its structure based on the presence of CB to increase the accuracy of its forecasts. Conclusions. The confidence interval approach to validate a model is more informative than the hypothesis tests for the same purpose.

Keywords
Statistics, error, confidence interval, models (Source: MeSH)