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Mixed model methodology for analysis of series experiment of plant breeding

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A standard experiment in plant breeding is the multi-environment trial, which is often abbreviated to MET. The major objective of MET is insight in performance (mostly yielder) and performance stability based on statistical methods. There have been various methods or models to use for analysis of MET data. In the paper we want to illustrate the advantage of the mixed model methodology for the MET data analysis in theory and analysis differences compared with the traditional methods by use of worked examples. The central philosophy was to pay attention to the modeling variance-covariance structure of both genotype effects and trial error effects, as well as to show the fit-goodness of different models and the implications of the selection of an appropriate model for evaluation of both performance and performance stability. The data used in this analysis came from state MET for corn in China.

Biography

Xiyuan Hu has completed his master degree from Georg-August-University Goettingen and PhD studies from Martin-Luther-University Halle-Wittenberg at the age of 30 years. He is Professor of College of Agronomy, Northwest A&F University, China and consistently has research cooperation with Germany. He has published more than 40 papers in reputed journals and has been serving as an editorial board member.

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