MIXED MODEL, MANOVA AND SEM ANALYSIS OF GROWTH IN THREE CROSSES OF SHEEP

F.J. Babinec[†]

Instituto Nacional de Tecnologia Agropecuaria, Anguil, Argentina

[†] E-mail: *fbabinec@anguil.inta.gov.ar*

In some field trials with animals it is not possible to avoid differences among experimental units, such as different ages when starting the experiment. This may be a drawback for the use of repeated measures-mixed models to analyze the original response variable. An alternative is to use structural equation models (SEM) to model the change, taking account of birth date differences. A comparison of mixed model, multivariate analisis of covariance with birth date as covariable, and SEM was perfomed using data from an experiment with animals of three crosses among three sheep races with different birth dates, weighted at four successive dates. Different models of structural equations was used, with and without birth date and/or growth rate. Results of mixed model and profile analyses with MANOVA were similar. The selected SE model was the one that includes only the effect of the previous weight. The three strategies of analysis show similar but complementary results.