COMPARISON OF COVARIANCE STRUCTURE APPROACHES IN REPEATED MEASURES ANALYSIS IN IN-VITRO SCREENING OF RUMEN FLUID SAMPLES

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Analysis of repeated measures involves data which consist of multiple measurements on experimental units. This paper focuses on comparison of covariance structure approaches on longitudinal data in which repeated measures on experimental units occur over time. General mixed model using likelihood-based procedures is implemented to estimate all unknown variance covariance parameters. It is observed that the compound symmetry structure performs better than the others in that the restricted likelihood (REML) estimation of the ratio has a smaller mean-squared error and should be preferred to the maximum likelihood estimation. Application is made to a replicated factorial designs in in-vitro screening of rumen fluid samples.