ANALYSIS OF THE DIAMETER COFFEE CANOPY AFTER PRUNING THROUGH NONLINEAR MIXED MODEL

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- ABSTRACT: The aim of this study was to model the coffee canopy diameter growth using mixed models, given the structure of available database and the interpretability of the results. Different structures were tested for the random effects variance-covariance matrix, in addition to the necessity of random effects in the parameters and finally compared the parameters between the treatments. We used data from an experiment carried out in the UFLA Department of Engineering. Were periodically evaluated over 1100 days the canopy growth plant. It was observed that the non-linear logistic model is suitable for describing the development of the coffee canopy diameter when choosing the diagonal matrix to the variance-covariance structure of the random effects, and two of the three model parameters is added to the random effect. It was concluded that the use of mixed effects model is appropriate and that the irrigation treatments do not differ, but differ significantly from non-irrigated treatment.

- KEYWORDS: Nonlinear regression; mixed model; random effect; curve fitting.

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