

## MIXED MODELS IN THE SELECTION OF RELATED SUGARCANE FAMILIES UNDER CLASSICAL AND BAYESIAN APPROACHES

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- **ABSTRACT:** *Sugarcane agribusiness is founded upon the development of new varieties from breeding programs. The optimal strategy for selection of plants is through prediction of their genotypic values using BLUPI (Best Linear Unbiased Predictor individual). Recently a procedure operationally more practical, called BLUPIS (simulated individual BLUP), has been proposed. In BLUPIS, data is collected at plot level. The BLUPIS allows one to select the best families and then simulate the number of plants to be selected within these families. The objective of this study was to compare BLUPIS under the classical approach (REML / BLUP) and under the Bayesian approach. Yield data was expressed in tons of stalks per hectare. The Bayesian procedure was more efficient when considered, in the model, a kinship information and also an informative prior distribution. For the other cases, the two procedures showed similar results.*
- **KEYWORDS:** *Bayesian analysis, plant breeding, BLUPIS*

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