

STUDY THE RELATIONSHIP OF THE NUMBER OF BACTERIA IN GOAT MILK HYGIENE PRACTICES WITH BIA GENERALIZED LINEAR MODELS

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- **ABSTRACT:** *The objective of this research is to propose hygienic practices of milking that most impact the quality of the milk. The observations were obtained on 13 family-country properties in the central region of Rio Grande do Norte, with 5 repetitions on each one of them. The response variable of interest is the total number of bacterium (in UFC/ml) and the covariates were spot cleanness, mastitis test, cleaning of the udder and milk filtering. Taking into account its nature the Poisson Regression Model was initially fitted assuming link function. Moreover, the covariate that contributes the most to decrease the amount of total bacterium, and consequently a better quality of the milk was the filtering. Considering the nature of the response variable we used the Poisson regression model with logarithmic link function. However, the data did not fit properly into this model, with an overdispersion. Alternatively, we used the negative binomial distribution to accommodate the excessive heterogeneity, allowing a proper fit. The model selection was done by analysis of deviance. It was observed that the covariate of greatest contribution to reducing the total bacterial count and, consequently, a better quality of goat milk just milked was coerced.*
- **KEYWORDS:** *Hygienic quality; raw milk; generalized linear models; overdispersion.*

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