

CHARACTERIZATION AND RISK FACTORS ASSOCIATED WITH THE MILK QUALITY PRODUCED IN PROPERTIES FROM THE REGION OF ALTO RIO GRANDE, MINAS GERAIS STATE, BRAZIL

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INTRODUCTION

Brazil produced by the third quarter of 2013 about 17 billion liters of milk, with an increase of 3% over the same time last year. The dairy agribusiness is present throughout Brazil, generating income, jobs and tributes. The state of Minas Gerais earns special attention in milk production, representing 25% of total milk collection in the country. In the region of Alto Rio Grande people living in rural areas continue to practice subsistence farming associated with the crop activity. The main industries in the region are the dairies, which benefits the dairy milk produced by small family farmers. This region has one of the largest milk productivity index of Minas Gerais, with an average volume of 2049 liters/animal/year.

In order to know the reality of these properties and find tools to generate and transmit technologies compatible with each reality alone, it is required knowledge of this profiles considering it's whole production sectors. The identification of the structure of production and technological activity can help to shorten the gap between generated and used technology.

To assist in the proper solution of the problems that occur routinely in milk farms, several quality tools have been developed, such as the explanatory observational epidemiological studies, which allow the identification and quantification of factors that determine the occurrence of mastitis and risk factors associated with high bacterial counts in milk relates to contamination from the environment, gadgets and equipment, animal and management.

The present work aims to characterize human and productive dairy cattle factors of 100 properties distributed in the Alto Rio Grande region, Minas Gerais State, Brazil and establish risk factors associated with milk quality factors related to Somatic Cell Count and Total Bacterial Count.

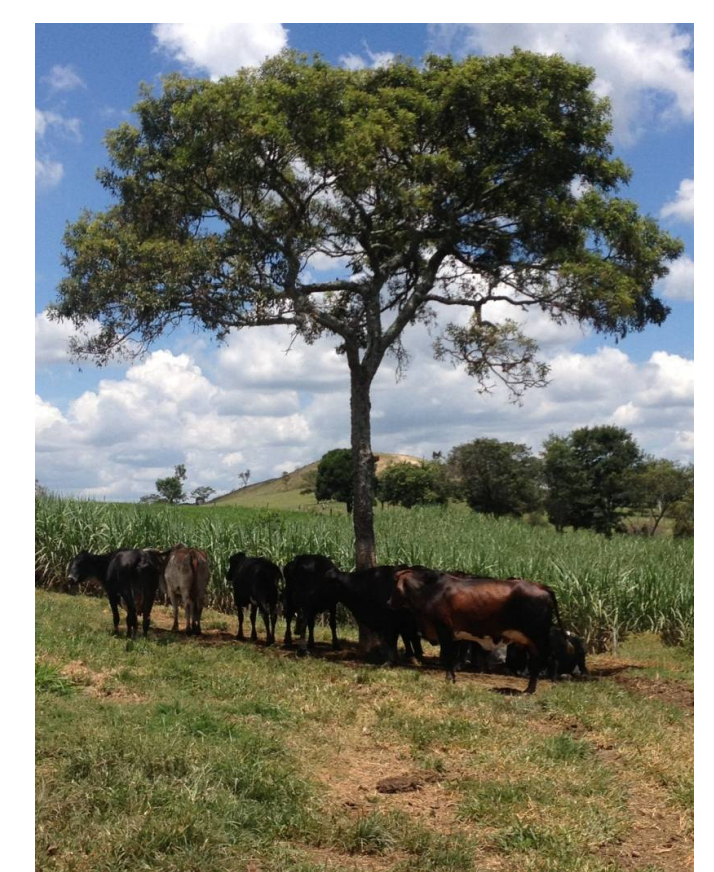
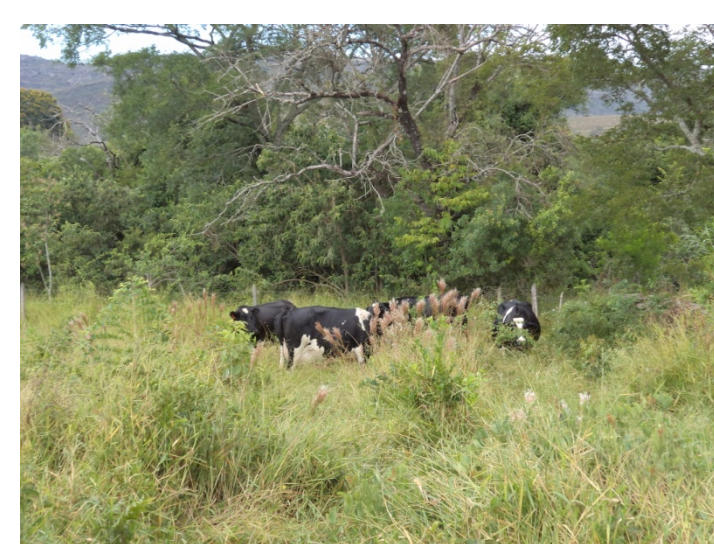
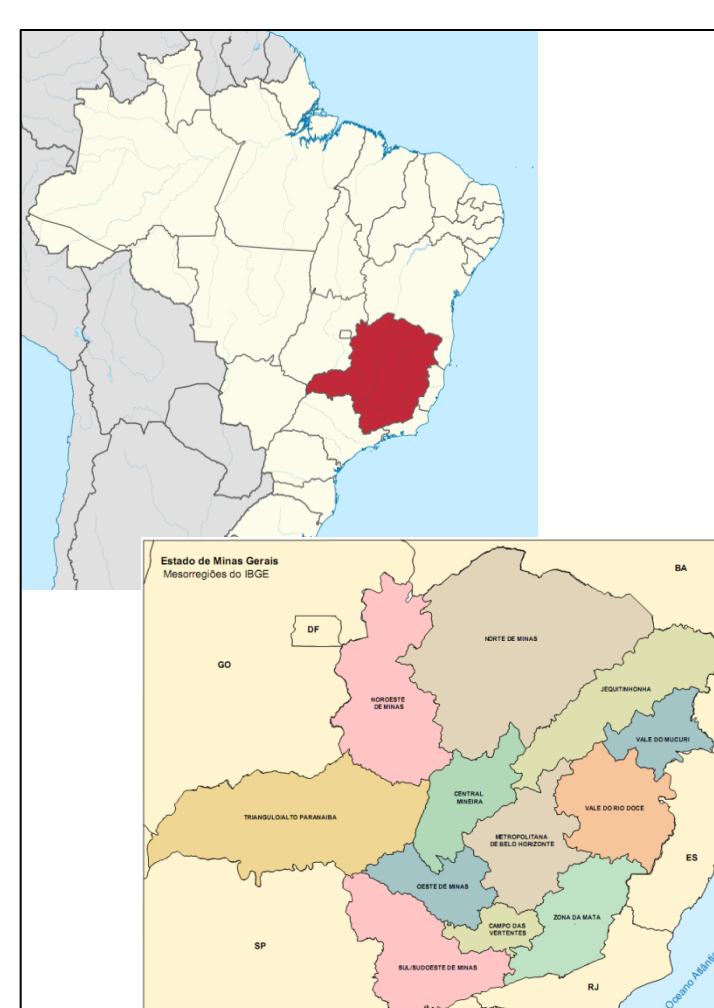
MATERIAL AND METHODS

For this study, 100 dairy properties distributed in six municipalities, were randomly selected. All dairy properties were suppliers of a dairy located in Lavras, Minas Gerais, Brazil.

In 96 dairy properties, a trained team applied a single individual questionnaire in order to obtain socioeconomic data of the place. During the milking activities of 100 properties, it was carried out a checklist of milking practices that were used in each dairy property. The answers were grouped by their frequency and categorization. Categorical data (qualitative) were transcribed obeying the class of interpretation and application of statistical tools. Quantitative data were also transcribed and then categorized.

Expansion tank samples were used to determine the Somatic Cell Count (SCC) and Total Bacterial Count (TBC), from October 2011 to October 2012.

Statistical data were obtained after accounting issues and determination of frequencies using SPSS software Statstocs ® 17.0.



RESULTS AND DISCUSSION

The socioeconomic profile of the 96 interviewed farmers allows to classify them according to age and production system adopted, where the production systems adopted semi confined and pasture were the most significant (94.7%). The highest percentage of confined production system was among producers with more than 60 years (14.3%). Regarding education, the majority of farmers (44.1%) reported that completed primary (basic) education. The plots by age: 40% of farmers under 40 had high school, 46.8% of farmers between 41 and 60 years and 54.5% older than 60 years completed only elementary education. When asked, 31.5% of respondents said they have another source of income, a percentage that decreased as the age increased, revealing that younger farmers are more concerned about having an extra source of income. Thus, 28.7% also said they would change their activities, and the producers between 41 and 60 the most dissatisfied with the profession, and with over 60 years the most satisfied. Regarding the passing on the dairy farming income as a bridge to the children, 63% of producers said they did not indicate this for their kids.

The aspects related to quality were: 38% of producer's milk samples were above the threshold permitted by law for SCC and only 13% for TBC. The risk factors of the final regression models ($P < 0.05$) were directly related to milking practices. TBC: absence of screened or black background mug, use of the dip tank, absence of trash bin on milking place, lack of space for milking, absence of water at the tank facility, absence of weekly tank cleaning, review of milking equipment present only when issues occurs, grazing production system and hand milking. For SCC the main risk factors were: absence of pre-dipping, presence of piped water on the milking area and appropriate floor in the waiting pen. Plus, the physicochemical and microbiological analysis of the water performed at least once proved to be a protective factor.

CONCLUSION

There is great diversity of production models and human factors, which affect and comprise the investigated properties. Although the vast majority of producers have TBC's standards legislation there are still a large number of properties that do not meet the SCC accepted values. Risk factors indicated that practical activities related to milking and water quality factors are predominantly important in both TBC and SCC results, highlighting the need for proper training for good milking practices.