

**TITLE:** COLONIAL CHEESES MARKETING IN THE MICRORREGION OF FRANCISCO BELTRÃO, PARANÁ: MICROBIOLOGICAL AND PHYSICO-CHEMICAL EVALUATION AND BACTERIAL RESISTANCE PROFILE

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**ABSTRACT:**

Artisanal/colonial products such as cheeses are widely consumed in the southern region of Brazil. Knowing that these require appropriate conditions for their production and storage, and that these factors may have an influence on technological quality, physical-chemical and sanitary quality of the final product, the present research aimed to contribute to the physical-chemical and microbiological characterization of the colonial cheeses produced and marketed in the Southwest region of Paraná and to evaluate the antimicrobial resistance of pathogenic bacteria isolated from these cheeses. Thus, samples of artisanal cheese (n = 10) were submitted to the following microbiological analysis: count of total coliforms, count of thermotolerant coliforms, confirmation of *Escherichia coli*, counts of mesophilic aerobes strict and facultative, counts of molds and yeast, survey of *Salmonella* spp., counts of *Staphylococcus* spp. and survey *Staphylococcus* coagulase positive, as well as, physical-chemical analysis of pH, lactic acid acidity, moisture, ash, proteins, lipids and carbohydrates. The bacterial resistance profile was determined in *Salmonella* (two isolates), *Escherichia coli* (five isolates) and *Staphylococcus* coagulase positive (five isolates) isolated from cheese samples. Of the cheese samples analyzed, 60% presented total coliforms higher than 1100 MPN/g and 60% did not comply with current legislation regarding the presence of thermotolerant coliforms. Three samples were contaminated with *E. coli*, one with *Salmonella* spp., seven with *Staphylococcus* spp., being five positives for coagulase, making them cheeses unfit for human consumption. The results presented for the physical-chemical parameters show that there was a significant difference ( $p > 0.05$ ) between a great part of the samples evaluated, as well as, for all parameters analyzed. All isolates tested in this study showed resistance to more than one antimicrobial agent. The bacteria of the family *Enterobacteriaceae* presented a higher than resistance profile to the antimicrobials tested, when compared to the *Staphylococcus* coagulase positive. The results indicate that the colonial cheeses produced in the Southwest region of Paraná deserve attention of the public health agencies, since they represent a potential risk to consumer health.

**Keywords:** Artisanal cheese, microbiological quality, physical-chemical characterization, food safety