**TITLE:** FERMENTED MEAT SAUSAGES PRODUCED IN FRANCISCO BELTRÃO, PARANÁ: EVALUATION PHYSICAL-CHEMICAL, MICROBIOLOGICAL, AND BACTERIAL RESISTANCE PROFILE

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## ABSTRACT:

The consumption of fermented meat sausages in Brazil, especially in the municipality of Francisco Beltrão, is highly appreciated, especially those known as colonial sausage/salami. Therefore, the objective of this research was to evaluate the physicalchemical and microbiological quality of fermented meat sausages produced in the city of Francisco Beltrão-PR, as well as, the resistance profile of the bacteria isolated from these products. For this purpose, samples of fermented meat sausage (n = 18) were submitted to the following microbiological analysis: count of total coliforms, count of thermotolerant coliforms, confirmation of Escherichia coli, survey of Salmonella spp., counts of Staphylococcus spp. and survey Staphylococcus coagulase positive and bacterial resistance profile, as well as, physical-chemical analysis of pH, moisture, ash, proteins and lipids. Regarding the microbiological parameters, all samples analyzed had total coliforms and thermotolerant coliforms. Of the total samples analyzed, 39% presented total coliforms higher than 1100 MPN/g and 28% presented counts of thermotolerant coliforms higher than allowed by current legislation. It was also found that 39% presented contamination by E. coli and 61% by Salmonella spp. The presence of Staphylococcus coagulase positive was confirmed in 39% of the samples analyzed. Were obtained 25 microbial isolates containing E. coli (n = 7), S. aureus (n = 7) and Salmonella spp. (n = 11) isolated of fermented meat sausages. Regarding the resistance profile, 16% did not present resistance to any of the antimicrobials tested, while the others (84%) presented resistance to at least one of the antimicrobials and in some isolates of Salmonella spp. it was observed the presence of multiresistance which is a serious public health problem. As for the physical-chemical parameters, the results allow to conclude that the analyzed samples presented great variability in the physicalchemical parameters, which may indicate the absence of standardization of the production process. In relation to the microbiological analysis, a great contamination is observed indicating the need to adopt preventive measures to control and implement Good Manufacturing Practices. Regarding the antimicrobial susceptibility test, it is known that the high index of resistant isolates increases the concern regarding the indiscriminate use of antimicrobials and the levels of multiresistance.

**Keywords:** Fermented meat sausage, microbiological standard, physical-chemical standard, bacterial resistance.