

**QUANTITATIVE MICROBIOLOGICAL EVALUATION OF TOTAL COLIFORMS IN
GROUND BEEF AND ITS RELATION WITH GRINDERS HYGIENE IN SHOPS IN
UMUARAMA, PR**

*AVALIAÇÃO MICROBIOLÓGICA QUANTITATIVA PARA A PRESENÇA DE COLIFORMES
TOTAIS EM CARNE BOVINA MOÍDA E SUA RELAÇÃO COM ASPECTOS DE HIGIENE DAS
MÁQUINAS DE MOAGEM DE ESTABELECIMENTOS COMERCIAIS DE UMUARAMA, PR*

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Meat physico-chemical parameters determine its organoleptic characteristics that are responsible for its high level of acceptance with consumers; however, meat is an excellent substrate for microbial growth (FELICIO, 1998). Meat handling increases the risks of contamination and causes even greater concern when it is previously cut using knives and/or ground using grinders. Ground beef has a much larger contact surface that gets exposed to the machinery and other utensils, which often are not properly sanitized - a fact that contributes to the occurrence of recontamination (SOUSA, 2006). This study evaluates the microbial quality of ground beef sold in 10 commercial shops in Umuarama, PR, and its relation to hygiene aspects of meat grinders. Therefore, 40 samples were collected, packaged and transported for processing at the Laboratory of Microbiology of the UEM, in Umuarama, PR. These were diluted in 0.1% peptone water, of which decimal dilutions up to 10^{-3} were obtained. Subsequently, 1 mL of each inoculum was seeded in Petrifilm® 3M (MUNHOZ, 2007) and then incubated at $35 \pm 1^\circ\text{C}$ for 24 ± 2 hours to count total coliforms (microorganisms related to food safety) (991.14 AOAC Official Method). A questionnaire (checklist) was applied individually to 53 meat handlers that were directly involved with these samples. A correlation was established between the questionnaire answers and microbiological data. It was clearly demonstrated that microorganisms in the meat could be associated with the frequency and cleaning methods of the equipment and utensils used. Thus, it was observed that the ground beef sold in Umuarama, PR, also had high levels of microorganisms due to low hygiene standards of the instruments/devices that come into contact with the meat, as well as poor hygiene habits of the professionals involved.

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