



## The Bacterial Quality of Merguez Sold in Agadir City, Morocco

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### Abstract

**Background and Aim:** The aim of this study was to determine the bacteriological quality of artisanal sausages made from beef meat sold in Agadir city, Morocco. For this reason, 25 samples were collected from different production points and were analyzed to determine the hygienic quality of these products.

**Methods:** Samples were submitted to the enumeration of Total Aerobic Bacteria (TAB), Total coliforms (TC), Fecal coliforms (FC), *Escherichia coli* (*E. coli*), *Yeast and molds* (YM), Lactic Acid Bacteria (LAB), and the presence of coagulase-positive *Staphylococcus*, *Salmonella*, and *L. monocytogenes*.

**Results:** Approximately 80% of samples contained bacteria (TAB, TC, FC, *E. coli*, YM) above the maximum limits established by the Moroccan regulatory standards for meat and meat products, with an average contamination of 7.88 for TAB; 5.12 for TC; 4.61 for FC; 4.94 for *E. coli*; 7.27 for YM in log CFU/g. The coagulase-positive *Staphylococcus* were detected in 4% of sausage samples. Neither *Salmonella* nor *L. monocytogenes* were isolated from samples. Seasonality and the sampling site significantly ( $p < 0.05$ ) affected the contamination level of coliforms.

**Conclusion:** However, high microbiological contamination levels attest the poor hygienic quality of merguez, possibly due to uncontrolled production, storage, and treatment of this product. The presence of high amount of LAB (7.16 log CFU/g) suggest their use in the biopreservation of traditional sausage.

**Keywords:** Artisanal Sausages, Microbiological Quality, Agadir, Morocco.