

## Preservation of Traditional Algerian Sausage Against Microbial Activity by the Garlic (*Allium Sativum L.*)

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**Abstract :** The present study aims to evaluate the association of fresh garlic (*Allium sativum L.*) and storage at 4°C in preserving the microbiological, nutritional, and sanitary quality of Merguez-type sausages prepared and sold locally from meat offal. The analysis focused on the evaluation of the microbiological quality of fifteen samples randomly taken from several butcheries in the wilaya of BBA, eastern Algeria. The bacteriological analysis revealed the presence of  $6.88.10^5$  CFU/g of total aerobic bacteria,  $5.39.10^5$  CFU/g of total coliforms,  $2.23.10^5$  CFU/g of fecal coliforms,  $2.43.10^3$  CFU/g of *Escherichia coli* and  $1.8.10^5$  CFU/g of coagulase-positive staphylococci, values higher than Algerian standards. The addition of fresh garlic as an antibacterial preservative at concentrations of 0.06, 0.12, 0.18, and 0.24 g/g to ground beef samples and stored in the refrigerator at 4°C for 15 days. The addition of garlic to Merguez made it possible to significantly reduce the presence of different bacterial groups during their refrigerated storage, compared to untreated meat, bringing it below the standards defined in the matter. Thus, the use of garlic as a food additive at a concentration of 0.12 g/g was sufficient to obtain levels according to Algerian standards equal to  $1.8.10^4$  CFU/g of total aerobic bacteria,  $9.48.10^3$  CFU/g of total coliforms,  $3.68.10^3$  UFC/g fecal coliforms,  $4.56.10^2$  UFC/g of *E.coli*  $2.39.10^4$  UFC/g of coagulase-positive staphylococci. It is clear that thanks to the addition of garlic to Merguez, the sanitary quality has been improved by reducing the aerobic bacterial load and increasing the shelf life at 4°C.

**Keywords :** antimicrobial effect, garlic, sausage, storage

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