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Indigenous Microflora on the Quality and Safety of Artisanal Sausage

**Darius-Nicolae SÎRBU¹, Mălina-Maria FRENTZ¹, Oana-Raluca RUSU¹,
Ionel BONDOC¹, Mihai MAREȘ¹ and Andra-Cristina BOSTĂNARU-ILIESCU^{1*}**

¹–“Ion Ionescu de la Brad” Iași University of Life Sciences, Faculty of Veterinary
Medicine;

*- Correspondence: andra.iliescu@iuls.ro;

Abstract:

In this study, we investigated the dominant microbial species present in artisanal sausages from different batches and regions, along with their contribution to fermentation dynamics and the development of characteristic sensory attributes such as flavor, aroma, and texture. Physicochemical parameters including water activity (a_w), pH, sodium chloride, nitrite, and nitrate levels were also analyzed, as these factors have a direct impact on both microbial ecology and product safety. The results revealed notable differences among the analyzed samples, with correlations observed between specific bacterial strains and quality indicators such as texture stability and flavor intensity. The predominance of beneficial microbial groups, particularly LAB and CNC, supported proper fermentation and contributed to the development of desirable sensory properties while simultaneously enhancing microbiological safety through the inhibition of spoilage and pathogenic microorganisms.

This research underscores the significance of understanding the microbial diversity of artisanal sausages and its influence on both quality and safety. Proper management and preservation of indigenous microflora represent key strategies for improving product consistency, food safety, and the sensory experience offered to consumers.

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