

**EVALUATION OF PHYSICO-CHEMICAL PROPERTIES OF
PROBIOTIC SAUSAGES.**

BY

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ABSTRACT

Probiotic food products are very popular on domestic and international markets. The application of probiotic in dairy products is quite frequent, while their application in meat products is still being explored. Six types of sausages were developed as indicating beef sausage, beef with probiotic sausage, mutton sausage, mutton with probiotic sausage, chicken sausage and chicken with probiotic sausage. Through 30 days of fermented sausage ripening, the survival of probiotic bacteria, the changes of starter bacteria counts, as well as the physical properties, chemical composition, pH values and sensory evaluation were examined. There were significant differences ($p < 0.05$) observed in dry matter content, ash, and weight loss, water holding capacity, pH, tritrate acidity, fat and protein among all types of sausages. At day one high amount of dry matter and ash content was observed in beef sausages and probiotic chicken sausage (59.51 ± 2.8) and (0.98 ± 0.01), respectively. High tritrate acidity and low pH value were observed in Probiotic chicken sausages (1.06 ± 0.05) and (5.37 ± 0.04), respectively.

During the storage period, ash, dry matter, pH, and tritrate acidity, weight loss, water holding capacity, fat, and protein ($p < 0.05$) were significantly differed among all types of sausages. High amount of tritrate acidity and lowest pH value were observed in probiotic chicken sausages (1.22 ± 0.02) and (5.16 ± 0.01), respectively. Beef sausages showed high amount of fat, protein and dry matter content, (10.16 ± 0.35), (24.4 ± 0.00), and (52.2 ± 0.60), respectively. During the first period of ripening, probiotic counts were 10^8 cfug⁻¹, after they increased to the level of 10^9 cfug⁻¹ and remained there until the end of storage. Probiotic bacteria counts were within the

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