Title	Effects of gamma irradiation and frozen storage on microbial, chemical and sensory quality of chicken meat in Iran
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Abstract

Irradiation is considered one of the most efficient technological processes for the reduction of microorganisms in food. It can be used to improve the safety of food products, and to extend their shelf lives. The aim of this study was to evaluate the effects of gamma irradiation and frozen storage as a combination process for improvement of chicken meat shelf life. Broiler chicken were treated with 0 (non irradiated), 0.75, 3.0, and 5.0 kGy of gamma irradiation and held frozen for 9 months. The control and irradiated samples were stored at −18 °C and underwent microbial analysis, chemical characteristics and sensory evaluation at 3 months intervals. Microbial analysis indicated that irradiation and freezing storage had a significant effect ($P < 0.05$) on the reduction of microbial loads. There was no significant difference in sensory quality and chemical characteristics during freezing storage in chicken meat. The combination of frozen storage plus irradiation resulted in greater overall reductions on microbial loads, extending shelf-life of chicken meat for commercial application and critical condition.