



MINISTRY OF JIHAD-E-AGRICULTURE

Agricultural Research, Education and Extension Organization

Animal Science Research Institute of Iran (ASRI)

**Application of tuna protein isolate in meat products formulation;
Phase 3: Using tuna protein isolates in fish burger and hamburger formulation and
investigating its effect on product's quality and stability**

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Abstract

The effect of applying tuna proteins isolate on product design and development and storage stability of silver carp mince burger and beef burger were studied using Design-Expert® Statistical Software. D-Optimal Mixture Design model was used for separate investigation on the effect of different mixtures of tuna protein isolate and silver carp mince and beef and their interactions on sensory and stability of the burgers. The results indicated that the prototypes containing 20% tuna protein isolate and 50% silver carp mince, and samples with 29% tuna protein isolate and 41% beef as selected products, had better sensory scores and acceptability than the other prototypes. The results also indicated that added tuna protein isolate to silver carp mince/ beef and storage time did not affect the sensory and stability of the products within 6 months frozen storage. The results could be used for development of animal products incorporated with fish protein isolate.

Keywords: tuna protein isolate, silver carp mince, fish burger, product development.