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Sterilization of Ready to Serve Product for Special Needs of Hajj and Umrah: Skipjack Tuna in A Retort Pouch Package

(2023) *E3S Web of Conferences*, 374, art. no. 00010, .

DOI: 10.1051/e3sconf/202337400010

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Abstract
One crucial period in the provision of food for Hajj/Umrah is the time between opening the package and consuming it by the pilgrims. This study aimed to determine the sterilization time to prevent damage and maintain acceptance by consumers. The methodology of this research was sterilization with variations in retort pressure settings and raw materials: (A) 1.8 bar pressure, 100 % skipjack; (B) 1.2 bar pressure, 90 % skipjack; (C) 1.2 bar pressure, 70 % skipjack; (D) 1.8 bar pressure, 50 % skipjack. The analysis included two components. The (i) was the determination of the adequacy of sterilization time, the (ii) was the observation of quality deterioration, which was based on organoleptic and Total Plate Count. The results showed that the adequacy of sterilization for variations A, B, C, and D was: 121.5 °C for 4.8 min; 114.5 °C for 4.8 min; 115.4 °C for 5.31 min, and 124.0 °C for 13.4 min. TPC analysis, which was carried out at 0 h, 3 h, 9 h, and 12 h in a row were 4 × 100, 2 × 102, 2 × 102, and 3 × 103. In terms of consumer acceptance, sterilized products have good values, with organoleptic values ranging from 7.8 to 8.2 (scale 1 to 10). © The Authors, published by EDP Sciences, 2023.

Author Keywords
Deterioration; Food preservation; Katsuwonus pelamis Linnaeus 1778; Lethal rate; Sterilization time

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Editors: Setyobudi R.H., Yaro A., Zekker I., Zahoor M., Turkadze T.
Sponsors: CV. KARYA PUTRA PANDAWA; Faculty of Biotechnology; imz; RP Editage - Helping you get published
Publisher: EDP Sciences

Conference name: 3rd International Conference on Natural Resources and Life Sciences, NRLS 2020
Conference date: 23 September 2020 through 24 September 2020
Conference code: 187350

ISSN: 25550403
Language of Original Document: English
Abbreviated Source Title: E3S Web Conf.
2-s2.0-85151409675
Document Type: Conference Paper
Publication Stage: Final
Source: Scopus