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## **Effect of sodium chloride replacement with potassium chloride on some quality indices of fish sauce from Caspian Sea sprat (*Clupeonella cultriventris*)**

**\*B. Mohammadzadeh**

Assistant Prof., Dept. of Fisheries, Faculty of Agriculture and Natural Resources,  
Gonbad Kavous University, Gonbad Kavous, Iran

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### **Abstract**

To aim salt reduction and investigation of the effect of sodium chloride (NaCl) replacement by potassium chloride (KCl) on the final product, fish sauce containing 20% (w/w) NaCl was produced from Caspian Sea sprat (*Clupeonella cultriventris*). Then, the effect of substituting NaCl by KCl at 0%, 25% and 50% on the some quality characteristics of prepared fish sauce was evaluated during 45 days of fermentation at  $37\pm 2$  °C. Qualitative indices were determined at 15, 30 and 45 days of fermentation period. According to results, the range of quality indices in various replacement levels were as following: pH :5.23 to 6.47, total nitrogen: 7.30 to 8.25 g/L, formaldehyde nitrogen 6.93 to 8.40 g/L, amino nitrogen: 4 to 5.60 g/L, rate of amino nitrogen/total nitrogen: 54.79% to 67.88%, total volatile basic nitrogen (TVB-N): 16.65 to 26.90 mg/100g and degree of hydrolysis: 54.88% to 67.99%. In conclusion, 25% and 50% KCl replacement caused that quality of fish sauce decreased in comparison to control treatment (100% NaCl) in terms of qualitative indices including amino nitrogen amino nitrogen/total nitrogen, TVB-N and degree of hydrolysis. Between two replacements concentrations of KCl, 50% has better quality than 25% in terms of total nitrogen, formaldehyde nitrogen and amino nitrogen. Therefore, in order to the reduction of salt in fish sauce, replacing NaCl with KCl at 50% can be suggested.

**Keywords:** Fish sauce, Potassium chloride, Quality, Sodium chloride