**Abstract:**

The aim of this study was to evaluate the effect of sodium phosphates on shelf life of *Otolithe rubber* fillet during frozen storage (-18 ° C). Croaker fish fillets were immersed in solution of sodium tripoly phosphate (2 and 5%), sodium hexameta phosphate (2 and 5%) and mixture of sodium tripoly phosphate and sodium hexameta phosphate (2%) for 10 minutes, then vacuum packed in polyethylene bags and freezing in freezing tunnel (-40 ℃) and stored at (-18°C) for 6 months. Physical (pH, Water holding capacity, drip after thawing and cooking), chemical (PV, TBA, TVB-N, TMA), microbial parameters (Total viable bacterial and psychrophilic total counts) and sensory analysis were measuring at zero time and every months. The results showed the WHC was increased significantly ($p \leq 0.05$)by using sodium phosphates and increase time .The PV, TBA and TVB-N values of sodium tripolyphosphate (5%) was lower than the other treatments ($p \leq 0.05$). TMA values of control and STP (5%) were 2.93 and 1.83 mg/ml at sixth month, respectively. The TVC and PTC of fillets were significantly ($p \leq 0.05$) decreased during frozen storage. Sensory evaluation results showed that, the acceptance of treated fillets were higher than control, thus the score of STP (5%) was higher than the others. Therefore the STP (5%) treatment recommended for *Otolithe rubber* fillet during frozen storage (-18 ° C).

**Key words:** Sodium phosphates, *Otolithe rubber*, Drip loss, Water holding capacity

University of Zabol
Graduate school
Faculty of Natural Resources

**The Thesis Submitted for the Degree of M.Sc**

**Of Fish Product Processing**

# Effect of sodium phosphates on the quality of *Otolithes rubber* fillet during frozen storage

Supervisors:

**Dr. E. Alizadeh Doughikollaee**

By:

**S. Mollazehi**

October 2015