

**PRODUCTION OF SIMULATED CAVIAR USING  
READILY AVAILABLE FISH SPECIES**

A dissertation submitted to the  
Faculty of Animal Science and Export Agriculture  
Uva Wellassa University  
in partial fulfillment of the requirement of  
the degree of  
Bachelor of Aquatic Resources Technology

By

**ILUKGATE GEDARA SAMUDRA NILMINI KUMARI  
ABEYRATHNA**

**Aquatic Resources Technology Degree Programme  
Faculty of Animal Science and Export Agriculture  
Uva Wellassa University**

**2013**

## ABSTRACT

Simulated caviar or imitation caviar is defined as salted roe that comes from a fish other than the sturgeon. Fish roe is removed as a by-product and doesn't have a high demand at present. Therefore it is important to add value to fish roe which is low demand. As a commercially significant freshwater fish species in inland fishery sector, Mrigal (*Cirrhinus mrigala*) was selected as resource fish species for experiment 01 and marine fish species, Yellow fin tuna (*Thunnus albacares*) was selected for experiment 02.

Roe samples of both species were subjected to "Dry salting" method and three different salt (g): fish roe (g) ratios as 0.05:1(S1), 0.25:1(S2) and 0.45:1(S3) were used to determine the best ratio. Yellow fin tuna roe was subjected to three maturity stages while three different salt ratios were used for each maturity stage and finally selected three samples with different salt (g): fish roe (g) ratios as 0.05:1(S1), 0.05:1(X1) and 0.25:1(Y2) after microbial analysis and pH test, sensory and proximate analysis.

For experiment 01: Highest protein content is recorded for S2 treatment, while maximum lipid percentage is recorded for S1 treatment. Moisture content of three samples were statistically different when compare to each other. pH changed significantly with storage time. TPC was not changed significantly only in S3 with the time. Highest sum of rank for four sensory parameters were recorded for S2 treatment. Therefore S2 treatment (0.25 salt: 1 fish roe) can be considered as the best treatment for preparation of simulated caviar using Mirigal roe.

Foe experiment 02: Chemical composition significantly different according to maturity stages at 0.05 levels. Highest protein content, lowest TPC and best consumer preference for all sensory parameters are recorded for X1 treatment. Production cost of X1 is low due to less salt requirement. Therefore X1 (0.05 salt: 01 fish roe by weight) with eggs of half maturity stage can be considered as the best method for preparation of simulated caviar from Yellow fin tuna roe.