D-74 Increasing shelf life of fish products using salt and natural preservatives

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Preference for the use of natural preservatives is increasing today but information on the use of such preservative is scanty. Therefore it is necessary to study the most acceptable bio-preservatives which can play a part during the preservation of fish.

A storage trial was conducted using natural preservatives tamarind (*Tamarindus indica),* goraka (*Garcinia gamboges),* turmeric powder *(Curcuma domestica)* with constant amount of salt to improve shelf life and acceptability of fish during storage at ambient temperature. Acceptability and shelf life of treatments were evaluated by sensory characteristic. (Sensory evaluation was carried out by a trained panel of seven judges). Total viable counts, total volatile nitrogen, and trimethylamine nitrogen was analysed at weekly intervals up to 6 months storage period.

Tamarind and salt treated fish samples scored the highest acceptability and shelf life compared to other treatments used in this study. Total volatile nitrogen value increased from 17.7024mg/100g to 58.79mg/100g. Total viable counts decreased from 30g to 10g and thereafter gradually to reach 3.6x 10^{-3}/g at the termination of the experiment.

The optimum ratio which scored highest acceptability to extend the shelf life was 7.5:1, fish:tamarind. The highest shelf life was observed in ratio 5:1 up to 6 months. Total volatile nitrogen value increased from 22.9mg/100g-60mg/100g in 7.5:1 ratio at rejection while an initial total volatile nitrogen value of 2.9mg/100g increased upto 51.61mg/100g in 5:1 ratio at the termination of the experiment. Its total viable count was in the range 33g to 2.5x10^{-3}g.