Proceedings of the 25th Anniversary Scientific Conference of NARA on Tropical Aquatic Research Towards Sustainable Development

Biochemical, microbiological and sensory assessment of quality in value added product (fish soup powder) developed from marine trash fish *Sufflamen capistratus*

G. Immanuel*, Surgen A. Bright and A. Palavesam

Centre for Marine Science and Technology, M. S. University, Rajakkamangalam-629 502, Kanyakumari District, Tamilnadu, India

Key words: Trigger fish; soup powder; TMA-N; TVB-N; FFA

Abstract

Today the economic growth leads to extensive demand for ready to cook or ready to serve products which results in the development of convenient product to meet the need of the people. One among the important technologies is the processing of low cost fish species into value added food products. The development of soup powder from low cost raw fish *Sufflamen capistratus* (Trigger fish) is the main theme in this study. The quality of raw material and quality of developed products in relation with biochemical, biophysical, microbiological and sensory evaluation tests were carried out. Two different combinations (C1 and C2) of soup powders were prepared and aseptically packed and stored in room temperature. The quality changes at regular intervals of 15 days for a period of 120 days were studied.

Among the 21 amino acids tested, isoleucine and arginine (12.56 to 13.05 g/100 g) were found to be more in both soup powders. Among the water and fat soluble vitamins tested, vitamin C was maximum (4.56 mg/100 g) in C1 and vitamin K was maximum (8.5 mg/100 g) in C2. Similarly, results on mineral analysis indicated that calcium (785.0 and 786.0 mg/100 g) and phosphorous (98.78 and 154.67 mg/100 g) contents were high in C1 and C2 products. The microbial count (TPC) in C1 and C2 combinations increased from 10 to 32 and 12 to 55 x 10^2 CFU/g respectively in a span of 75 days storage, beyond this period, the microbial load decreased. The protein, carbohydrate and lipid content of both the products did not show much variation during the storage condition. But TMA-N, TVB-N and FFA content increased rapidly to elevated range in both products. The pH and moisture content were slightly increased in both the products from initial to final days of storage. Based on the results of sensory evaluation study, the prepared soup powder C1 has respective colour, texture, odour, flavour etc. and was acceptable till 120 days of storage, whereas C2 was acceptable only up to 60 days of storage.

* *Correspondence : gimmas@gmail.com*