

## Microbiological quality of fish in retail outlets of Ceylon Fisheries Corporation in the Colombo district

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Fish is considered as an excellent choice for high quality protein and essential nutrients. Its nutritive value as well as palatability is appreciated worldwide. Sri Lanka has a greater dependence on fish and fishery products in terms of nutrition, health, income, employment and foreign exchange earnings. The state owned Ceylon Fisheries Corporation (CFC) holds about 3% of the domestic fish market in Sri Lanka. Fish with pathogenic bacteria result in severe, chronic or fatal health consequences for the population, in addition to reduced economic productivity for the country. Therefore, it is essential that the various microbiological hazards associated with the market retailing of seafood are identified and quantified. The present study was conducted to determine and quantify the occurrence of various types of microorganisms in fish, marketed in CFC retail outlets in Colombo district. The microbiological analysis consisting of examination for aerobic plate count (APC), total coliforms, faecal coliforms, *E.coli*, *Salmonella* spp. and *Staphylococcus aureus*, were performed according to Sri Lanka Standards manuals using Oxoid (UK) brand dehydrated media. The results were compared with microbiological limits recommended by the International Commission on Microbiological Specification for Foods (ICMSF) (1986).

The APC of fish samples were in the range of  $4 \times 10^3$  CFUg<sup>-1</sup> to  $4 \times 10^7$  CFUg<sup>-1</sup>. The higher numbers of APC may be due either to the high level of initial contamination or to time-temperature abuse, which allowed microbial proliferation. The results highlight the importance of strict adherence to Good Manufacturing Practices (GMPs), from harvesting to retailing, to obtain a product with a better microbiological quality.

**Keywords:** microbiological quality; pathogenic bacteria; domestic fish markets; Ceylon Fisheries Corporation; Colombo district