

Case Study on Detection of *Salmonella* spp. in Market Available Ice Creams at Jaffna Peninsula, Sri Lanka

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During the summer, ice cream is a widely consumed item. In Sri Lanka, high-quality ice cream manufacture has become a key component of the dairy industry. Salmonellosis is still a major public health issue around the world. During the previous decade, a large number of *Salmonella* positive cases were reported from the Jaffna peninsula in Sri Lanka. This study aimed to detect *Salmonella* spp. based on SLS regulation (SLS 516 Part 5:2017; ISO 6579-1:2017) in market available ice creams at Jaffna peninsula, Sri Lanka. Thirty vanilla ice cream samples were collected randomly from Valikaamam, Vadamaradchi, Thenmaraadchi in Jaffna peninsula. Conventional cultural and biochemical identifications (TSI test, urea agar test, L-Lysine carboxylation test, indole test, β -galactosidase test and VP test) were carried out to isolate and detect the organism. Experiments were carried out during December 2021 to February 2022. The results revealed that the peninsula was contaminated with *Salmonella*. Two (IC16 and IC22) of thirty samples (6.7%) were biochemically positive for *Salmonella* spp. The pH of ice cream samples was found to be between 5.6 and 6.5 at 25°C. Contributing factors of ice cream for *Salmonella* contamination include poor sanitary practices during processing, use of contaminated ingredients, contaminated scoop water, post-process contamination and improper storage temperatures. Contaminated samples suggest the need to maintain strict hygienic control over the ice cream production, handling, processing, storage and distribution of ice cream should be maintained to protect consumers against health hazard. The HACCP system should be implemented in the ice cream sector to improve the quality of products made in Jaffna and ensure consumer safety.

Keywords: Ice Cream, Jaffna Peninsula, *Salmonella*, Micro-Biological Quality, Pathogens