

Microbial Analysis of Ice cream sold in Jaffna Municipality Area

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Studies on the microbiological quality of ice cream obtained from Municipality area in Jaffna was carried out. Ice cream produced by seven large scale (average production > 25 kg/day) and nine small scale (average production < 25 kg/day) manufacturers were studied. Each ice cream sample was collected three times with one month interval. The aerobic bacterial count ranged from 8.3×10^2 to 7.6×10^5 colony forming units per gram (cfu/g). About 18.75% of products contained high amount of aerobic bacterial counts than the Sri Lankan standard level (2.5×10^5 cfu/g) and the mean aerobic bacterial count of the large scale and small scale ice cream samples were 1.5×10^5 and 2.2×10^5 cfu/g respectively. There was no significant difference ($p < 0.05$) between the mean aerobic bacterial count of large scale and small scale ice cream products. The anaerobic bacterial counts of the ice cream samples varied from 0 to 22.5 cfu/g and the mean anaerobic bacterial count of the large scale and small scale ice cream samples were 10.7 and 25.5 cfu/g respectively. There was significant difference ($p < 0.05$) between the mean anaerobic bacterial count of large scale and small scale ice cream products. Out of the sixteen ice cream products considered fifteen ice cream samples were contaminated with coliform bacteria and four products contained faecal contamination. This was confirmed by analysing the ice cream samples for *Escherichia coli*. Among the four ice cream samples one was from the large scale producer and three were from small scale producers.

Keywords: Aerobic bacteria, Anaerobic bacteria, Coliform, Faecal coliform, *Escherichia coli*, *Tubercle bacilli*.