ABSTRACT

People around the world are used to consume raw, ready-to-eat and minimally processed food due to their modern life style and people are more concerned about food safety as well as food quality. To achieve this objective, Hazard Analysis and Critical Control Point (HACCP) system is identified as the most effective and efficient method to ensure the product safety and it commenced new chapter in present era. There is a growing demand in the global trade with recent approach and it is become the primary requirement to commercialize the food products. All most all the Sri Lankan food companies are expecting to implement the HACCP system; because it is the weapon that can be used to compete the market competition in the local market as well as overseas. The study was aimed at development of HACCP plan for ice cream manufacturing process of MILCO (pvt) Ltd , one of the Sri Lankan milk industry that produce natural, high nutrition and very fresh product totally depending local farmers.

Good Manufacturing Practices manual (GMP) was developed as a pre-requisite program to build solid foundation for the HACCP plan. All the potential hazards associated with each processing step from raw milk reception to dispatch of end product were identified under the categories of biological, chemical and physical hazards and selected the significant hazards among them according to the severity and risk. Then Critical Control Point were identified . CCP monitoring, corrective action and verification procedure were established and documented.

Chilled milk storage and raw milk pasteurization are the Critical Control Points (CCPs) that were identified from raw milk receiving to standardization of milk. The mix pasteurization, aging and hardening were identified as the CCPs in rest of ice cream manufacturing process.

Chilled milk storage temperature need to maintain below 4^0C and 71.7^0C for15 seconds were established as critical limits for raw milk pasteurization.

The time temperature combination for the mix pasteurization should be maintained at 65.6^0C not less than 30 minutes to destroy *Bacillus cereus* and *Listeria monocytogenes* which are the microbial hazard commonly present in ice cream. 4 C - 7^0C, at least 4- 48hours for aging and -23^0C to -26^0C for hardening were the critical limit that was established for the each CCPs from mix pasteurization to dispatch of end product respectively.