

**IDENTIFICATION OF FACTORS AFFECTING ON
LIMITED SHELF LIFE OF IN-BOTTLE STERILIZED
MILK AT PELWATTE DAIRY INDUSTRIES LIMITED**

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ABSTRACT

During sterilization milk is heated without appreciable loss of volume to a temperature of more than 100 °C, for a length of time sufficient to kill all relevant microorganisms, spores and most of the heat resistant enzymes. PDIL is producing sterilized milk for the local market. However, they are having a problem of shorter shelf life in-bottle sterilized milk than the acceptable period of 6 months. Usually market available in-bottle sterilized milk with can be stored 6 month under ambient temperature but PDIL milk can be stored only for two months period. Therefore this research was conducted to identify the factors affecting the limited shelf life of in-bottle sterilized milk at Pelwatte Dairy Industries Limited. Here concerned three main factors with affect on the shelf life of in-bottle sterilized milk as; quality of raw milk, post process contamination and processing conditions. Quality of raw milk was evaluated by plat form tests and measuring the Total plate count in raw milk. Parameters used for chemical analysis are pH and titratable acidity, where as microbial analysis consisted with TPC and coliform analysis. Preliminary study was done to determine the shelf life of in-bottle sterilized milk. Commercially available in bottle sterilized milk was used as the control sample. Turbidity test was done to determine the processing efficiency of in-bottle sterilized milk. Swab sample was analyzed as the potential recontamination source. There were huge variation on pH, titratable acidity and KQ values of incoming raw milk to the factory. But with the storage condition pH and acidity was not show the significant difference ($P < 0.05$). Data were compared using SLS standards. Finally, it can conclude that the major factor which affects the shelf life was raw milk quality.