ISOLATION OF *LISTERIA MONOCYTOGENES* FROM READY TO EAT FOOD PRODUCTS

A PROJECT REPORT PRESENTED BY

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ABSTRACT

Listeria monocytogenes, a ubiquitous foodborne pathogen, was recognized over 70 years ago. It is the source of the human disease listeriosis. Due to the recent outbreaks, recalls and deaths associated with *Listeria monocytogenes* in ready-to-eat meat products, the United States Department of Agriculture (USDA), Food Safety and Inspection Service (FSIS) on October 2, 2003 issued a directive for the control of Listeria monocytogenes on ready-to-eat products. The ready-to-eat food industry has imposed post-lethality treatment and/or growth inhibitor for *Listeria monocytogenes* on ready-to-eat products.

It is estimated that 5% of healthy humans harbor *Listeria monocytogenes* in their gastrointestinal tract. Humans shed the bacteria in their stools and may show no signs of the illness. The Economic Research Services (ERS) estimated that, each year in the United States, the costs of the acute illnesses from foodborne Listeria are $2.3 billion. The persons affected by Listeriosis are a well-defined high-risk group that includes: pregnant women, neonates and immunocompromised adults. The mortality rate associated with listeriosis is 20%.

The purpose of this study is to isolate *L.monocytogenes* in ready to eat products, since it has been a neglected area of research in Sri Lanka, despite its importance as a key organism that causes food borne illnesses.

In the study, 30 ready to eat food samples were checked for isolation of *Listeria monocytogenes* using a conventional method. The method used for the isolation was validated by performing a spike test with 92% recovery. It was concluded that the conventional method could be used for the isolation of Listeria spp. in ready to eat food products in the study.

Listeria monocytogenes was not isolated even in any of the thirty food items sampled for the study. It is possible that the number of tested samples was inadequate for the isolation. However for logistic reason, a large number of samples could not be tested in limited time frame of the research project.