

RESEARCH NOTE

MICROBIOLOGICAL QUALITY ASSESSMENT OF DELI MEATS SOLD IN SINGAPORE

Andrew Oh^{1,4}, Vijitha Manogaran^{1,4}, Renuka Selvaraj^{1,4}, Lee Ching Ng^{1,2} and Kyaw Thu Aung^{1,2,3,4}

¹Environmental Health Institute, National Environment Agency; ²School of Biological Sciences, ³School of Chemical and Biomedical Engineering, Nanyang Technological University; ⁴National Centre for Food Science, Singapore Food Agency, Singapore

Abstract. Deli meats have been linked to several foodborne outbreaks worldwide. However, to the best of our knowledge, limited published data are available on microbiological quality of deli meats sold in Singapore. Deli meat samples ($n = 120$) obtained from retail establishments in Singapore were tested using standard plate counting for *Bacillus cereus*, *Escherichia coli*, *E. coli* O157, *Listeria* spp, *Salmonella* spp, *Staphylococcus aureus*, and *Vibrio* spp. *B. cereus* was found in 2% of the samples with concentrations $<3 \log \text{CFU/g}$ and non-pathogenic *L. welshimeri* in 2% of the samples with concentrations $<10 \text{CFU/g}$; overall, 90% of the samples and a standard plate count of $<6 \log \text{CFU/g}$. Counter-top ham contained a significantly higher standard plate counts than factory-packed ham. These findings provided an update to the hygiene status of deli meats sold in Singapore, which should be useful to support policy development in food safety and hygiene in the future.

Keywords: bacteria, food safety, meat product, Singapore

Correspondence: Lee Ching Ng, School of Biological Science, Nanyang Technological University, 60 Nanyang Drive, Singapore 637551.

Tel: +65 6771 9106; Fax: +65 6777 2275

E-mail: NG_Lee_Ching@nea.gov.sg