

Evaluation of *Listeria* spp. and *Listeria monocytogenes* in selected vegetable farms

ABSTRACT

The aim of the study was to examine the prevalence of *Listeria* spp. and *Listeria monocytogenes* in soil, poultry manure, irrigation water, and freshly harvested vegetables from three vegetable farms in Cameron Highlands. A total of 177 samples including environmental and vegetable samples were collected. Among the environmental samples ($n = 94$), poultry manure was found to have a higher prevalence of *Listeria* spp. and *L. monocytogenes* at 77.8% and 61.1% respectively using the MPN-PCR analysis procedure. Soil samples were also found to harbour *Listeria* spp. and *L. monocytogenes* at 47.6% and 38.1% respectively. Irrigation water sampled from the farms were found to be free from *Listeria* spp. Both *Listeria* spp. and *L. monocytogenes* were also detected in 24% and 12% of swabs done at the three farms respectively. Among the freshly harvested vegetables, *Listeria* spp. was detected in cabbages (30%), cucumber (20%), yardlong beans (10%) and carrots (10%) whereas *L. monocytogenes* was detected in cabbages (10%), yardlong beans (10%) and carrots (10%) using the MPN-PCR analysis procedure. The present results signify that *Listeria* spp. poses a potential risk for raw vegetable consumption in Malaysia. The study also provides baseline data on *Listeria* spp. contamination at farm level.

Keyword: *Listeria monocytogenes*; *Listeria* spp.; Prevalence; Vegetables; Farm