Application of MPN-PCR in biosafety of Bacillus cereus s.l. for ready-to-eat cereals.

ABSTRACT

Since Bacillus cereus is one of the important foodborne pathogens, it is interesting to investigate the biosafety of Bacillus spp. and B. cereus in ready-to-eat cereals marketed local supermarkets. For this investigation, the prevalence and enumeration of Bacillus spp. and B. cereus were assayed using MPN-PCR method. Results showed that 78% of the processed cereal products intended for direct consumption were positive for the presence of B. cereus with concentrations ranging from as low as 30 MPN/g to more than 24,000 MPN/g. The concentration obtained from this study also reflects on the differences in the contamination level between the infant food, raw cereals, cereal bars, ready-to-eat breakfast cereals and pre-mixed drinks examined. Hence, application of the MPN-PCR method was found to be useful to address the biosafety concerns of B. cereus in ready-to-eat cereals.

Keyword: Biosafety, Prevalence, Enumeration, Bacillus cereus, Ready-to-eat cereals