

Scientific Interpretive Summary

Microbiological survey of retail fresh produce of imported, domestic conventional and domestic organic origin

In light of the increasing number of overseas outbreaks of foodborne illness associated with consumption of fresh produce, NZFSA commissioned a microbiological survey of ready-to-eat (RTE) intact and fresh cut vegetables and fruits at retail in New Zealand to inform an evaluation of possible risks in New Zealand.

A microbiological survey of 891 imported conventional (n=226) and domestically grown conventional (n=349) and organic (n=316) fresh fruits and vegetables purchased from a variety of retail outlets in Auckland and Christchurch was conducted over a 15 month period.

Microbiological quality was assessed using the New Zealand Ministry of Health microbiological reference criteria (1995) and the Food Standards Australia New Zealand guidelines for RTE foods (2001). This survey determined that 95% to 97% of different types of produce were of “satisfactory” microbiological quality according to indicator organisms (faecal coliforms and/or *E. coli*) levels. All imported apples, capsicums, grapes, melons and strawberries were of satisfactory quality.

Of the “marginal” and “unsatisfactory” samples, approximately half (54%) were attributed to domestic conventional and organically grown leafy greens, with strawberries, sprouted seeds and capsicums contributing to a lesser extent.

Pathogen testing found no *Campylobacter* or *E. coli* O157:H7 in any sample. *Salmonella* Typhimurium was detected on two domestic organic lettuces from one grower. A site visit suggested contamination either through direct defecation of birds perched on hail netting or indirectly, washed through the netting by overhead irrigation or rain.

The survey results are in strong agreement with international surveys conducted in a number of developed countries. Leafy greens are the produce type most likely to be of concern. The dominance of *E. coli* as a proportion of the faecal coliform population on leafy greens suggests that good hygienic practice for this type of fresh product in New Zealand could be strengthened..

Although this survey suggests a low level of contamination with microbiological pathogens in New Zealand, sporadic failure of good hygienic practice may result in sporadic incidents of food borne illness. It should be noted that only a limited number of pathogens were included in the battery of tests applied in this survey and other pathogens e.g. non-O157 STECs, *Listeria monocytogenes* and viruses, may be tested for in the future..

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