

6<sup>th</sup> Annual Conference on

## MICROBIOLOGY

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**Prevalence, concentration and the related microbiological risk of bacterial pathogens in raw produce and minimally processed packaged salads produced in and for the Netherlands****L M Wijnands, E H M Delfgou-van Asch, M E Beerepoot-Mensink, A van der Meij-Florijn, F M van Leusden and A Pielaat**  
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Outbreaks with vegetable or fruits as vehicles have raised interest in the characterization of the public health risk due to microbial contamination of these commodities. Because such data are lacking, we conducted a survey to estimate the prevalence and contamination level of raw produce and the resulting minimally processed packaged salads as sold in The Netherlands. A dedicated sampling plan accounted for the amount of processed produce in relation to the amount of products, laboratory capacity, and seasonal influences. Over 1,800 samples of produce and over 1,900 samples of ready-to-eat mixed salads were investigated for *Salmonella enterica* serovars, *Campylobacter* spp., *Escherichia coli* O157, and *Listeria monocytogenes*. The overall prevalence in raw produce varied between 0.11% for *E. coli* O157 and *L. monocytogenes* and 0.38% for *Salmonella*. Chain logistics, production figures, prevalence data, and consumption patterns were combined with the survey data for the risk assessment chain approach. The results of the sample analysis were used to track events from contamination through human illness. Wide 95% confidence intervals around the mean were found for estimated annual numbers of illnesses resulting from the consumption of mixed salads contaminated with *Salmonella* Typhimurium DT104 (0 to 10,300 cases), *Campylobacter* spp. (0 to 92,000 cases), or *E. coli* (0 to 800 cases). The main sources of uncertainty are the lack of decontamination data (i.e., produce washing during processing) and an appropriate dose-response relationship. For the latter, investigations for *Salmonella* and Shiga Toxin producing *E. coli* are set in motion.

**Biography**

L M Wijnands has started working in Food Microbiology around 2000, and completed his PhD in Food Microbiology in 2008. The subject of his thesis was on *Bacillus cereus* associated food borne disease. Ever since his PhD he worked on various subjects concerning risk assessment of food borne pathogens, such as *Clostridium perfringens*, *Salmonella* spp, Shiga toxin producing *E. coli* and *Listeria* spp. One important subject of interest is the risk assessment regarding fresh produce. He is (co-) author of various papers with respect to the risk of fresh produce, and with respect to dose-response work.

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