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Microbiological survey of ready-to-eat foods prepared and displayed in retail delicatessens

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ABSTRACT

The aim of this work was to determine the bacteriological status of selected RTE foods, associated preparation surfaces and cleaning tools sampled from four retail delicatessens in Johannesburg. An initial pilot study of four RTE foods such as filled baguettes, assorted salads, sliced processed meats and hot meals was conducted in order to set the parameters for the remainder of the study. Results showed that filled baguettes and assorted salads contained the highest bacterial counts and incidences of potential foodborne pathogens. Bacterial counts were obtained from the associated preparation surfaces, whilst cleaning tools were associated with coliform and *Escherichia coli*, suggesting they may harbour potential foodborne pathogens. For the main study, 60% filled baguettes and assorted salads complied with the microbiological guidelines recommended by the retailer, however fruit salads had the lowest bacterial counts overall. Furthermore, of the food contact surfaces plastic chopping boards were identified as the greatest reservoir for RTE food contamination. Bacteriological analysis in conjunction with scanning electron microscopy showed potential foodborne pathogens associated with cleaning tools. Low numbers of aerobic bacteria and *Staphylococcus aureus* were associated with disposable plastic gloves, suggesting that good glove practices are used by the food handlers.