Title Changes of bacterial diversity and main flora in chilled pork during storage using PCR-DGGE

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Abstract

This study was designed to explore the bacterial diversity and the main flora in chilled pork by polymerase chain reaction-denaturing gradient gel electrophoresis (PCR-DGGE). Longissimus muscle was removed from pork carcasses at 24 h postmortem. The muscle was tray- and vacuum-packaged at 4 °C for 2, 4, 7 days to extract the bacteria total DNA, respectively. The results indicated that the bacterial diversity of chilled pork decreased with storage time regardless of packaging method. Nine types of bacteria were identified, including *Arthrobacter* sp., *Enterococcus* sp., *Staphylococcus* sp., *Moraxella* sp., *Pseudomonas* sp., *Lactobacillus* sp., *Aeromonas* sp., *Acinetobacter* sp., *Brochothrix thermosphacta*. For tray-packaged pork, *Pseudomonas* sp. and *B. thermosphacta* were the dominant micro-organisms. The differences in the species found were related with the presence of *Lactobacillus* sp. in vacuum-packaged meat. The results of the present study might be useful to study the changes of the contaminating bacteria and their characteristics in chilled pork.