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## Diversity of bacterial species on biofilm

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To investigate changes in the bacterial species of the biofilm at the end of the drinking water distribution system, denaturing gradient gel electrophoresis (DGGE) and DNA sequencing were used. The presence of sequences from aerobic *Sphingomonas* sp., anaerobic *Rhodobacter* sp., and unculturable bacteria indicated that these organisms coexisted after 1 day of model operation, demonstrating the ease of biofilm formation on galvanized iron pipes in the water distribution system studied. Sequences similar to those of unculturable bacteria, *E. coli*, and anaerobic bacteria were detected during the course of succession on the biofilm. More complicated band patterns were observed after 70 days of operation. PCR-DGGE illustrated changes in the biofilm during succession as well as the possibilities of anaerobic conditions. PCR-DGGE and culture-dependent fatty acid methyl ester (FAME) analysis showed different patterns for the same samples (Lee & Kim 2003); however, PCR-DGGE showed less diversity than did FAME analysis.