Kyu Seok Jung et al., Appli Micro Open Access 2018, Volume 4
DOI: 10.4172/2471-9315-C1-012

Microbial analysis of red pepper and red pepper cultivated soil in Korea

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The occurrence of various pathogenic microorganisms on farms is a concern if they are able to contaminate fresh produce, which provides entry into the food supply. This study was undertaken to assess the microbiological quality and prevalence of pathogens in red pepper and red pepper cultivated soil in Korea. Microbiological analysis of red pepper and soil obtained from 8 farms, respectively, were conducted to determine the total aerobic bacteria count, coliforms count and the prevalence of *Escherichia coli*, *Bacillus cereus*, *Salmonella* spp., *Escherichia coli* O157:H7, *Listeria monocytogenes*. The total aerobic plate counts in the red pepper and soil were in the range of 3 to 8 log CFU g^{-1} and 6 to 8 log CFU g^{-1}, respectively. In the red pepper, coliforms were detected in the range of 2 to 7 log CFU g^{-1} and *Escherichia coli* was not detected. In the soil, coliforms were detected in the range of 1 to 6 log CFU g^{-1} and *Escherichia coli* was in the range of 1 to 4 log CFU g^{-1}. In 3 out 63 red pepper samples, *Bacillus cereus* was detected, while other pathogens were not detected. In 53 of 54 soil samples, *Bacillus cereus* was detected, while no pathogens were detected. This research provides information regarding microbiological quality of red pepper and red pepper cultivated soil.

Biography

Kyu Seok Jung has completed his PhD from the University of Seoul, South Korea. He is working for National Institute of Agricultural Science in Rural Development Administration as Research Scholar and is engaged in agrifood safety work. He evaluates the microbial safety and prevalence of pathogens in fresh produce, manure compost, organic fertilizer and study microbial ecology of foodborne pathogens in soil and manure compost.

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