

PATHOGENIC BACTERIA IN FINNISH RAW MILK

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Increasing demand and consumption of unprocessed and natural foods has brought the safety and quality of raw milk into focus for research and general debate. Unpasteurized milk can contain a variety of pathogenic bacteria, but the prevalence of pathogens in raw milk in Finland has not been extensively studied. The aim of this study was to determine the occurrence of *Listeria monocytogenes*, *Campylobacter* spp., *Salmonella* spp., Shiga toxin-producing *Escherichia coli* (STEC), coagulase-positive staphylococci, *Yersinia* spp., and *Bacillus cereus* in the Finnish raw cow milk. A total of 183 milk samples from the bulk tanks of Finnish dairy farms were analyzed. *L. monocytogenes* was detected in 5.5% of the raw milk samples, with the average concentration being 1 CFU/ml in the positive samples. *Campylobacter* spp. or *Salmonella* spp. were not detected in any of the samples. STEC with Shiga toxin-encoding *stx2* was detected in 2.7% of the samples. Coagulase-positive staphylococci were detected in 34.4% of the samples, with the average concentration being 25 CFU/ml in the positive samples. *Yersinia enterocolitica* was detected in 7.7% of the samples. However, all *Y. enterocolitica* isolates were negative for *ail*, suggesting that they are non-pathogenic. Members of the *B. cereus* group were detected in 20.8% of the samples, with the average concentration being 1 CFU/ml in the positive samples. At least one of the potentially pathogenic bacteria, *L. monocytogenes*, STEC, coagulase-positive staphylococci, or *B. cereus*, was detected in 52.5% of the samples. No relationship was detected between the total bacterial count and the presence of pathogenic bacteria and, further, pathogens were detected in milk samples with both very low and very high total bacterial counts. In conclusion, despite the generally high hygienic standard, pathogenic bacteria are occasionally detected in Finnish raw milk. Although the concentration of pathogens in fresh raw milk was mainly relatively low, it should be borne in mind that consumption of raw milk and related products poses a potential risk for food poisoning.

* This abstract and related poster was previously presented at the 23rd International ICFMH Symposium, FoodMicro 2012, Turkey, 4.9.2012.