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BOOK OF ABSTRACTS

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I10. Industrial and Food Microbiology and Biotechnology

P375. Evaluation of *Salmonella* spp. and *Listeria monocytogenes* survival in table salt and cross-contamination effect

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Salmonella spp. and *Listeria monocytogenes* are foodborne pathogens that contaminate a variety of food products. Among various routes of transmission, consumer mishandling of foods at home plays a significant role in the occurrence of foodborne diseases. Of particular risk is the cross-contamination events that may occur in the kitchen during meal preparation when a ready-to-eat (RTE) food, that will not undergo a heating step prior to consumption (e.g. vegetable salads), comes in contact with a contaminated raw food or surface. In this study, the cross-contamination and transfer rates of *Salmonella* spp. and *L. monocytogenes* from chicken meat to lettuce, via cross-contamination of table salt, during simulated food-handling were determined. Additionally, the survival of both pathogens on artificially inoculated table salt was investigated. Chicken meat samples (50 g) were inoculated with a mixed cocktail of *L. monocytogenes* (n=7) or *Salmonella* spp. (n=5) strains to a final contamination level ranging from 10² to 10⁶ colony forming units (CFU)/g. The transfer experiments (n=4) were performed by one volunteer that touched the contaminated chicken and then of table salt, that was subsequently used to season lettuce samples. The survival of these pathogens in table salt was investigated by inoculation table salt with the mixed cocktail of each pathogen (ca. 10⁶ CFU/g) and stored at room temperature (RT). At specific time intervals samples were taken and bacterial numbers determined following the ISO 6579:2002 and ISO 11290-1&2. *Salmonella* spp. and *L. monocytogenes* was detected in cross-contaminated lettuce samples at all contamination levels tested. *Salmonella* spp. was able to survive for xx days, levels were below the detection limits after 86 days, while *L. monocytogenes* resisted for 120 days of exposure. This study showed the ability of *Salmonella* spp. and *L. monocytogenes* to survive for a long time on table salt at RT, and proven that these pathogens can be transferred from table salt to RTE food during handling. Thus, it is very important prevent the cross-contamination to ensure consumer safety and reduce outbreaks of salmonellosis and listeriosis.

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