

Title Variation among strains of *Listeria monocytogenes*: differences in survival on packaged vegetables and in response to heat and acid conditions

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Citation Food Control Volume 16, Issue 8, October 2005, Pages 687-694 7th Karlsruhe Nutrition Congress on Food Safety

Keyword Foodborne pathogens; Food safety; Fresh produce

### **Abstract**

The survival of different serotypes and strains of *Listeria monocytogenes* during storage on packaged vegetables (lettuce, dry coleslaw mix) was examined and their resistance to acid (pH 3.5), heat (55 °C) and antibiotics investigated. Survival and growth patterns on vegetables depended on strain, product type and package atmosphere. In general, most of the strains examined grew well on shredded lettuce, with populations increasing during storage. In the case of coleslaw mix, there were significant differences ( $P < 0.05$ ) in survival of the various strains; populations of most strains decreased during storage but to different extents. However, populations of serotype 1/2a strain 269 increased ( $P < 0.05$ ) on coleslaw. There was significant variation ( $P < 0.05$ ) among strains in their resistance to heat and acid conditions; however, all strains responded similarly to antibiotics. In conclusion, there were significant differences observed among the various strains in terms of their ability to survive in heat and acidic conditions and on packaged vegetables.