

Title The use of gaseous ozone and gas packaging to control populations of *Salmonella infantis* and *Pseudomonas aeruginosa* on the skin of chicken portions

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Citation Food Control Volume 16, Issue 5, June 2005, Pages 405-410

Keyword *Salmonella infantis*; *Pseudomonas aeruginosa*; Modified Atmosphere Packaging (MAP); Ozone; Poultry

#### Abstract

Chilled breasts of chicken were inoculated with *Salmonella infantis* or *Pseudomonas aeruginosa* and then given one of the following treatments: (i) exposure to gaseous ozone (>2000 ppm for up to 30 min); (ii) storage under 70% CO<sub>2</sub>:30% N<sub>2</sub>; and (iii) exposure to gaseous ozone (>2000 ppm for 15 min) followed by storage under 70% CO<sub>2</sub>:30% N<sub>2</sub>; all storage at 7 °C. Gaseous ozone reduced the counts of salmonellae by 97% and pseudomonads by 95%, but indigenous coliforms were unaffected. Under the modified atmosphere, the cell count of *S. infantis* was reduced by 72% following initial exposure and then stabilised, coliforms grew, but *Ps. aeruginosa* behaved like *S. infantis*—initial reduction (58%) followed by stability. Exposure to gaseous ozone followed by gas packaging allowed survival of *S. infantis*, *Ps. aeruginosa* and coliforms over 9 days at 7 °C, but there was no evidence of any sensory deterioration. It is proposed that the latter treatment could, in a modified form perhaps, be used to reduce the contamination of chicken carcasses with salmonellae and improve their shelf-life.