

Bacteriological Quality of Freshly Processed Broiler Chickens as Affected by Carcass Pretreatment and Gamma Irradiation

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Abstract

Chicken carcasses dipped in whey fermented by *Streptococcus thermophilus*, lactic acid solution or water and irradiated at 2.5 kGy by 60Co were evaluated for bacteriological quality on day-1, day-3 and at 3-day intervals for an 18-day storage (4°C) period. Unirradiated carcasses treated similarly were used as control. Gram negative bacteria, *Yersinia* and *Campylobacter* counts were significantly ($p < 0.01$) lower in irradiated samples, but no significant ($p > 0.05$) differences were observed among the dipping solutions. *Salmonellae* were completely eliminated in irradiated samples. Whey fermented by *S. thermophilus* reduced the proportion of *Salmonella* contaminated carcasses from 67% to 20%. As evidenced by the bacterial counts the shelf-life was found to be 15 days for irradiated carcasses compared to about 6 days for the unirradiated samples