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 6OCo were evaluated for bacteriological quality on day-L, 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.