

Effect of some decontaminants on *E. coli* in chicken fillet

Alaa Eldin M. A. Morshdy, Ahmed E. Tharwat, Mohamed A. Hussein and Basma A. Fakhry

Food Control Department, Faculty of Veterinary Medicine, Zagazig University, Zagazig 44519, Egypt

This study was undertaken to investigate the effect of some organic acids in different concentration on *E. coli* in chicken fillet. Organic acids reduce pH of chicken fillet after dipping directly to reach 3.9 by dipping in 2% acetic, lactic and citric acids. The organoleptic score of chicken fillet adversely affected under dipping trials in 2% lactic or acetic for 120 minutes, where the score became 2.9 and 1.88, meanwhile the score of control fillet was 3.81. After dipping 15 minutes the achieved reduction percentages were (28%) for both 1% acetic or lactic acid and (22.22%) for citric acid, meanwhile acetic or lactic acid 2% achieved reduction percentages (62.2%) and 2% citric achieved (57.4%). After dipping 30 minutes the achieved reduction percentages were (48.43%) and (76.7%); (50%) and (70%); (30.4%) and (54.2%) for 1 and 2% of acetic; lactic; citric acid, respectively. After 60 minutes dipping in sterile distilled water (control), acetic acid, lactic acid and citric acid 1% and 2%. The reduction percentages were (73.6%) and (85.2%), (74.3%) and (86.8 %), (69.7%) and (80.5%) for 1% and 2% of acetic, lactic and citric acids, respectively. After dipping for 120 minutes the reduction percentages were (89.38%) and (95.5%), (91.5 %) and (95.1 %), (83.02 %) and (88.57 %) for 1% and 2% of acetic, lactic and citric acids, respectively. The results of these experiments suggest that dipping chicken fillet in an organic acid solution of acetic, lactic, and citric acids can greatly reduce populations of *E. coli*. Thus enhancing overall food safety.

Key words: Acetic acid, Lactic acid, Citric acid, chicken fillet, *E.coli*.