

THE EFFECTS OF THYMOL AND LACTIC ACID AGAINST *CAMPYLOBACTER JEJUNI* AND THE AMOUNT OF BIOGENIC AMINES IN BROILER BREAST MEAT

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Abstract. The aim of this study was to evaluate the effects of thymol and lactic acid on *Campylobacter jejuni* in association with the amount of biogenic amines of broiler breast meat during 4 days of storage at +4°C temperature. Treatment with 1% thymol had a significant impact on *Campylobacter jejuni* counts in broiler meat. The counts of *Campylobacter jejuni* were reduced by 0.41 log CFU ($P \geq 0.05$) and 0.66 log CFU ($P \leq 0.05$) on broiler breast meat treated with 0.5% and 1% thymol solution, respectively, compared with an untreated sample contaminated with *Campylobacter jejuni*. In addition, treatment of broiler meat with 0.5% thymol solution reduced the levels of cadaverine, tyramine and spermine, compared with the control sample ($P \leq 0.05$) during 96 hours of storage at +4°C temperature. Besides, the amount of cadaverine and spermine was similarly reduced by 1% thymol solution and 3% lactic acid solution, respectively ($P \leq 0.05$). There was no D-lactic acid isomer formed in the samples treated with 0.5% and 1% thymol solution and 3% lactic acid solution ($P \leq 0.05$). Therefore, 1% thymol solution could be used not only as the decontamination measure against *Campylobacter jejuni* but may also reduce the amount of biogenic amines and inhibit the production of D-lactic acid isomer on broiler breast meat.

Keywords: campylobacter, thymol, lactic acid, biogenic amines, pH