

Effect of belimbing buluh (*Averrhoa bilimbi*) juice extract on oxidative stability and microbiological quality of spent chicken meat

ABSTRACT

This study evaluated the effects of *Averrhoa bilimbi* juice extract and storage temperature on lipid oxidation and microbial spoilage of spent chicken meat. Ten, 80 weeks old spent chickens were slaughtered, eviscerated and aged for 24 h at 4°C. Thereafter, the Pectoralis major muscles and right thighs were excised and marinated in either *A. bilimbi* juice extract, pure distilled water, or no marination (control) for either 4 or 9 h at room temperature or 9 or 24 h at 4°C. Lipid oxidation was monitored on the Pectoralis major muscles while the right thighs were assessed for Enterobacteriaceae counts. Lipid oxidation was not significantly affected by the type or duration of marination. Marination showed a temperature dependent effect on Enterobacteriaceae counts. At room temperature, samples that were marinated by distilled water showed significantly higher Enterobacteriaceae counts than the control while those that were marinated with *A. bilimbi* juice extract showed no growth at both 4 and 9 h of marination. At chilled temperature, marination had no significant effects on the growth of Enterobacteriaceae during the 9 or 24 h storage. These results indicated that *A. bilimbi* juice extract marinade has some antibacterial activities but works better when combined with refrigerated storage.

Keyword: Spent chicken meat; *Averrhoa bilimbi*; Marination; Lipid oxidation; Microbial spoilage