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Investigation of using chitosan for preservation chicken and quail eggs

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In this study, chitosan coating materials were prepared with different organic acids (acetic acid, lactic acid, and propionic acid). Phenolic compounds (gallic acid and caffeic acid) were added to this coating formula. With the prepared coating material, quail and chicken eggs covered. Coated and uncoated samples were contaminated with *Salmonella enteritidis* and Escherichia coli for microbial analysis. Antimicrobial and shelf-life studies (weight loss, Haugh unit, yolk index, albumen pH, mineral substance analysis, shell breaking strength and microbial analysis) of the coating formulations that we have prepared investigated. All chitosan coated chicken and quail egg samples were showed greater interior (weight loss, Haugh unit, yolk index, albumen pH, microbiological analysis) and exterior quality (shell breaking strength) than uncoated ($p<0.05$). Coating with chitosan enriched phenolic compounds of the egg samples were caused statistically significant anti-microbiological effects on microbiological (*E. coli* and *Salmonella enteritidis*) parameters ($p<0.05$). Considering all the data determined from the present study, it was found that chitosan coated preserves interior quality and shell breaking in eggs.

Biography

Ozlem Turgay graduated from Veterinary Faculty, Istanbul University in 1992. She is currently working as Professor at Kahramanmaras Sutcuimam University, Turkey.

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