

Effect of Nano Calcium Lactate Based on Chicken Eggshells on the Chemical Quality of Ungkep Rooster Layer Chicken Meat

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ABSTRACT

This study aimed to determine the effect of adding eggshell-derived nano-calcium on the chemical quality of ready-to-cook stewed male layer chicken meat. The materials used in this study included male layer chicken meat, shallots, garlic, turmeric, candlenut, ginger, galangal, coriander, sugar, salt, palm oil, and monosodium glutamate (MSG). The experiment was conducted using three levels of eggshell-derived nano-calcium addition: P0 (0%), P1 (0.30%), and P2 (0.60%) based on the total weight of the meat with 4 replicates for each treatment. The observed parameters were moisture content, protein, fat, ash, and calcium. Data were analyzed using Analysis of Variance (ANOVA) and followed by Duncan's Multiple Range Test (DMRT) when significant differences were detected. The results showed that the addition of eggshell nano-calcium had a significant effect ($P < 0.05$) on all chemical quality parameters of stewed male layer chicken meat. The highest level of nano-calcium addition (0.60%) resulted in the lowest moisture content (48.10%), the highest protein content (19.97%), the lowest fat content (19.68%), the highest ash content (1.07%), and the highest calcium content (66.00%). The addition of nano-calcium increased the mineral and protein contents while reducing the moisture and fat contents of the product. Conclitions form this research that eggshell-derived nano-calcium has potential as a natural food additive to improve the chemical quality of ready-to-cook stewed male layer chicken meat.

Keywords : *rooster layer chicken, nano calcium, chicken eggshell, chemical quality, Ungkep.*