Fortification of Meatballs with Nano Calcium Through the Green Synthesis Method on the Sensory Quality of Broiler Meatballs

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ABSTRACT

This study aims to determine the effect of fortification of meatballs with nano calcium through the green synthesis method on the sensory quality of broiler meatballs. The materials of this study consisted of nano calcium citrate broiler bones, broiler chicken meat, egg white, monosodium glutamate, salt, isolate soy protein (ISP), tapioca flour, carrageenan, shallots, garlic, and ice cubes. This study was conducted by adding nano calcium citrate broiler bones as much as P1 (0%), P2 (0.15%), P3 (0.30%), P4 (0.45%), and P5 (0.60%) of the total dough. Sensory quality testing was carried out by 40 untrained panelists. The parameters observed consisted of color, aroma, taste, texture, elasticity, and acceptability. The assessment method used in this test used a hedonic scale, namely 1 (very dislike), 2 (dislike), 3 (somewhat like), 4 (like), and 5 (very like). Sensory test data were analyzed using non-parametric analysis through the Hedonic Kruskal Wallis test and if there was a difference in the mean, further testing was carried out using Duncan's New Multiple Range Test. The results of the study showed that different levels of addition of nano calcium citrate broiler bone in broiler meat meatballs did not significantly affect (P>0.05) the parameters of color, aroma, taste, texture, elasticity, and acceptability. The parameter value of the acceptability test value was 3.53 to 3.93, which indicated that it was in the category of slightly liking to liking. The highest concentration treatment (0.60%) showed the highest average score of 3.93. It can be concluded that this study can be added up to a level of 0.60% of the total meatball dough without reducing sensory quality and still providing a good level of acceptance by the panelists.

Key words: *broiler bones, broiler meat, fortification, nano calcium citrate, sensory quality.*