Abstract

This study aims to determine the effect of tomato extract on the physical and hedonic properties of beef. The study was conducted in May 2025 for one week at the Basic Laboratory of the Department of Agricultural Sciences, Muhammadiyah University of Gorontalo. The research material used was beef cut into small pieces weighing 100 grams. This study used a completely randomized design (CRD) with 5 treatments (including a control treatment without soaking) and 5 replications, where each treatment and replication contained five pieces (slices) of beef. The treatments given to the beef were 0 hour or no soaking (P0), 1 hour soaking (P1), 3 hours soaking (P2), 5 hours soaking (P3), and 7 hours soaking (P4). The physical properties of the meat were observed, namely pH, while the hedonic qualities were color, flavor, aroma, and tenderness (texture). Data were analyzed using Analysis of Variance (ANOVA), and if significant differences were found, further testing was conducted using Duncan's Multiple Range Test (DMRT).

The results of the analysis of variance showed that physical qualities, specifically meat pH, and hedonic properties, namely color, flavor, aroma, and texture, showed a very significant difference after soaking with tomato extract. Further testing using Duncan's Multiple Range Test (DMRT) showed that beef soaked for 3 hours and 5 hours produced ideal pH values. Beef soaked for 3 and 7 hours produced significantly different colors and the best results compared to the other treatments. The 3-hour soaking produced the best flavor and aroma and was significantly different compared to the other treatments. Beef soaked for 3 and 7 hours did not differ significantly and together produced the texture most preferred by the panelists.

Keywords: *Beef, tomato extract, physical and hedonic properties*

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