

Abstract

This study examined the effects of Transglutaminase (TG) at concentrations of 0%, 1%, and 2% at 30 minutes marination time on the physicochemical (color, texture, and moisture), cooking loss, and sensory properties of braised chicken drumettes. The color analysis analyzed that the 0% sample has highest L* (61.375), a* (1.536), and b* (29.099). Based on texture analysis, the 1% TG sample had the hardest (16.941 N), followed by 2% (16.905 N), and 0% (16.861 N). Thus, the 2% sample showed the greatest cooking loss (21.706%), contradicting the expected improvement in WHC, although based on moisture analysis, the 2% sample was able to retain more moisture (66.706%) in the sample. Thus, sensory evaluations supported these findings, with the control (0%) sample receiving the highest scores for texture (6.877), juiciness (6.151), taste (7.151), and overall liking (6.877), although not statistically significant differences. Meanwhile, the panelists also ranked 0% as Rank 1, 1% as Rank 2, and 2% as Rank 3. These findings suggest that TG, at the tested parameters, does not notably improve the quality of braised chicken drumettes, besides moisture content. Future research should consider variations in enzyme concentration, marination time, and cooking methods to better understand and optimize the use of TG in poultry products. In addition, sensory evaluation using Quantitative Descriptive Analysis (QDA) is recommended to analyze if the panelists are able to distinguish the differences between the samples.

Keywords: Chicken, Enzyme, Meat, Protease, Protein, Transglutaminase.