

Abstract

Meatballs (*bakso*) are a popular Indonesian food, but their quality and shelf life are often limited by poor texture and rapid spoilage. This study investigated the effect of transglutaminase (TGase) enzyme on the sensory properties and stability of beef-chicken meatballs during 7 days of refrigerated storage. Three formulations were tested: control (0% TGase), Sample A (0.3% TGase), and Sample B (0.5% TGase). Sensory evaluation was conducted with 50 panelists using a 9-point hedonic scale and ranking test. Stability testing included color, texture, and moisture content analysis on days 1, 3, 5, and 7. Results showed that Sample A had the highest sensory scores, especially in appearance and hardness. TGase-treated samples also demonstrated improved texture (higher and more stable hardness and springiness) and better color retention due to enhanced protein cross-linking. Moisture content remained stable across all samples, indicating that STPP primarily contributed to water retention. These findings suggest that 0.3% TGase, in combination with STPP, optimizes the sensory quality and shelf life of meatballs.

Keywords: *meatball, transglutaminase, sensory properties, stability testing, STPP*