ABSTRACT

This study took plant-based fishball (PFB) as a seafood analog to apply the glycated solution of soy protein isolate (SPI) and konjac glucomannan hydrolysate (KGMH). The glycated solution was prepared through the wet-heating Maillard reaction, followed by assessing the stability index of the solution and the incorporation of the glycated solution to the plant-based fishball. The PFB were categorized into 3 groups based on the SPI-KGMH content: control (C0), PFB3, and PFB4. Cooking yield, expressible moisture, water activity, texture profile analysis, proximate analysis, color analysis, and sensory evaluation were evaluated in this study. The results showed a significantly different ($p<0.05$) between the C0 and PFB4, specifically for the cooking yield (107.33±0.51% for C0 and 118.81±0.74% for PFB4), expressible moisture (3.89±0.26% for C0 and 7.61±0.26% for PFB4), moisture content (63.86±1.06% for C0 and 68.36±0.33% PFB4), and colorimeter analysis which the L*, a*, and b* of PFB4 had a darker, more green and yellow color compared to C0. The result of sensory evaluation of texture for PFB4 were higher (7.12±1.24) compared to C0 (5.20±1.30) with PFB4 having a higher overall acceptability (6.92±1.21) than C0 (5.80±1.09) ($p<0.05$). This study showed that the addition of SPI-KGMH affects the physicochemical and sensorial properties of PFB. Future studies are recommended to observe the effect of storage conditions towards the PFB's physicochemical properties.

Keywords: Konjac glucomannan hydrolysate, physicochemical properties, plant-based fishball, sensory evaluation, soy protein isolate