ABSTRACT

This study focused on evaluating the functional properties and proximate composition of uncooked (UC) and precooked (PC) durian seed starch (DSS). There is, however, a lack of research on the functional properties of treated durian seeds. The study involved sorting and processing durian seeds into UC and PC flour, followed by starch extraction using the alkali-steeping method. Multiple rounds of extraction were performed to ensure reliable results. Analyses on the assessment of water activity, color, functional properties, total starch and amylose content, and proximate composition were carried out. The results indicate no statistically significant difference ($p>0.05$) between UC-DSS and PC-DSS, except for extraction yield, where UC-DSS (59.02±7.36%) exhibits a higher value than PC-DSS (44.05±11.61%). Both UC-DSS and PC-DSS showed significant differences ($p<0.05$) in terms of luminance, blue-yellow, and red-green hue. The water activity (aw) of UC-DSS (0.52±0.07%) and PC-DSS (0.55±0.02%) showed no significant disparity ($p>0.05$). These findings indicate that precooking durian seeds did not enhance the yield or functional properties of the starch.

Keywords: Durian seed starch, pre-cooking, starch extraction, functional properties, alkaline steeping method, proximate composition