EVALUATION OF FIRMNESS AND COLOR OF FRESH-CUT FUJI APPLES COATED WITH WHITEMOUTH CROAKER (Micropogonias furnieri) PROTEIN ISOLATE AND MONTMORILLONITE


Recently, there has been an increasing market demand for minimally processed fruits and vegetables due to their fresh-like character, convenience, and human health benefits. The objective of this study was applied coatings of Whitemouth croaker (CPI) protein isolate and montmorillonite (MMT) for coverage in minimally processed Fuji apple, and after these to analyze firmness and color in the products. Apples were selected for uniform size and appearance. Then apples were peeled, cored and cut into 1 cm thick cubes. The coatings were prepared by dissolving CPI 35 g in water, adjusted to pH 11.2 then added MMT 5 g controlling the temperature at 80°C; after complete dissolution of the CPI and MMT, glycerol was added. For the preparation of the coatings, CPI was accomplished the same process without addition of MMT, with three treatments: Treatment T1 (control film), Treatment T2 (film with CPI), Treatment T3 (film with CPI and MMT). The samples were packaged in PET, and stored at 4±1 °C. These were analyzed for 1, 3, 5, 7, 9 and 12 storage days. In general, the enzymatic browning of apple pieces during storage was accompanied by a decrease in lightness L* and an increase in colorimetric a*. The firmness of the control did not significantly decrease over the 7 days of storage. Coating with CPI and MMT effectively retarded or avoided tissue softening in the samples. Treatment T3 showed the best results in coverage of minimally processed apple when compared with other treatments at 12 days of storage.