

ABSTRACT

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UTILIZATION OF “HARUM MANIS” (*Mangifera indica* L.) MANGO PEELS PECTIN AND DIFFERENT MATURITY OF MANGO FLESH IN MANGO JAM

(xiv + 188 pages : 27 tables, 13 figures, and 10 appendices)

Mango peel is a by-product that can be a valuable source of pectin, but it has not been used effectively. This research was conducted to extract pectin from “Harum manis” mango peels and to evaluate the effect of mango flesh maturity level and mango peel pectin concentrations towards the quality of mango jam. Unripe and ripe mango flesh and four different concentrations of mango peel pectin (0.5%, 0.75%, 1%, and 1.25%) were applied to the jam formulation. The parameters analyzed in this study included pH, total soluble solid, viscosity, consistency, water activity, syneresis, color, and sensory attributes. The yield of pectin extracted from unripe mango peels (18.65%, dry-weight of peel) was significantly higher ($p < 0.05$) than the ripe peels (13.75%). Maturity levels of flesh and concentrations of peel pectin had no effect towards the pH and total soluble solid of jam. Nevertheless, the use of unripe flesh and higher concentrations of peel pectin in jam significantly ($p < 0.05$) increased the viscosity and consistency, as well as decreased the syneresis. Pectin concentrations affected water activity. In terms of color analyses, both maturity levels of flesh and concentrations of peel pectin affected the redness-greenness of jam. However, only maturity levels of flesh affected the lightness and yellowness-blueness of jam. The best jam evaluated through sensory evaluation in terms of aroma, taste, color, spreadability, and overall characteristics was the one made from ripe mango flesh with 1.25% of pectin concentration added. Nevertheless, jam made by using mango peel pectin still had lower quality in terms of physical and sensory analyses compared to the one made by using commercial high methoxyl pectin (HMP), especially in terms of viscosity, consistency, syneresis, and spreadability.

Keywords: mango peel pectin, “Harum manis” mango, unripe, ripe, jam

References: 76 (1972 – 2010)