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PRODUCTION AND CHARACTERIZATION OF 'SEKAKI' PAPAYA FRUIT PUREE AND POWDER

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ABSTRACT

This study was conducted to optimize enzyme liquefaction of papaya fruit using Pectinex Ultra SP-L, followed by spray-drying the liquefied puree into powder. Pectinex® Ultra SP-L was applied at different concentrations (0.5 - 2.5% v/w) and incubation time (0.5 - 2.0 hours). The puree after enzyme liquefaction was spray-dried with different temperatures of 160- 200°C). Results showed that papaya puree treated with Pectinex® Ultra SP-L at 1.0% (v/w) with an incubation time of 2 hours gave the lowest viscosity (6510.10 ± 1616.37 cps), TSS value at 10.09 ± 0.68 °Brix, pH value at 4.42 ± 0.19 and color value of L*= 33.83 ± 1.61, a*=33.75 ± 1.18 and b*=44.37 ± 0.86. Spray-drying at 160°C inlet temperature yielded powder with good properties: moisture content at 5.45 ± 0.07%, water activity at 0.15 ± 0.004 Aw, hygroscopicity at 17.90 ± 1.34%, and color values L*=92.39 ± 0.01, a*=4.44 ± 0.001 and b*=12.27 ± 0.01. For proximate analysis, spray-dried papaya powder had the lowest ash content, fat content, protein content, and no fiber was detected in spray-dried papaya powder. The pH of the reconstituted powder was lower compared to the optimized puree, and the color was darker and yellow compared to the optimized puree.