

Production of high quality pineapple juice powder for using in instant jelly powder product

V. Chantadol, S. Thianpassakorn, S. Bannakulpipat, C. Borompichaichartkul

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Abstract

This research proposed to increase value of pineapple by processing into pineapple juice powder by spray drying. Drying aids such as konjac glucomannan and maltodextrin were used. Spray drying inlet temperature was set at 140°C; initial solid content is 35%. After the powder was obtained, soluble solid, pH, color, total phenolic compounds, vitamin C, water solubility, dispersion in water, moisture content, water activity (a_w) and percentage of yield were analyzed. The result showed that when adding 22.20% (w/v) maltodextrin into the pineapple juice, the obtained powder had a light yellowish color. When mixing 0.25% (w/v) konjac glucomannan powder with 21.95% (w/v) maltodextrin into the pineapple juice, yield of the powder was reduced. Vitamin C from both samples was not statistically different ($p>0.05$) but total phenolic compounds were slightly higher in sample with KGM. Other values such as water solubility, dispersion in water, soluble solid, pH and color were also not statistically different ($p>0.05$), but moisture content and a_w values were statistically different ($p\leq 0.05$). The SEM image showed round uniform and smooth surface particles from both treatments. For the second part, the pineapple powder was applied for making instant jelly. In the jelly mixture, konjac glucomannan was also chosen to replace gelatin. Panelists scored in-house jelly higher than commercial product in terms of flavor.