

Duanrung Benjamas. 2000. A Study on Optimum pH, Temperature and Final Concentration of the Pulp for the Production of Kaew Mango (*Mangifera indica*.) Concentrate by Vacuum Evaporation Method. Master of Science Thesis in Food Technology, Graduate School, University. [ISBN 974-678-163-4]

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Abstract

The effect of pH (2.5-4.5), temperature (60-80°C) and final concentration (30-40°Brix) on the quality of concentrated Kaew Mango pulp produced by a rotary vacuum evaporator were investigated. The central composite rotatable design was employed in the study. The effects of pH, temperature and final concentration on water activity (a_w), lightness (L^*), yellowness (b^*) and viscosity of concentrated Kaew Mango pulp as well as the acceptability of mango drink prepared from the concentrated pulp were evaluated. The water activity of the concentrated pulp was not affected by pH, temperature and final concentration. pH and final concentration show positive linear effect on the viscosity of the concentrated pulp. The pH shows quadratic effect on lightness and yellowness of the concentrated pulp. The lightness (L^*) and yellowness (b^*) of the concentrated pulp will be maximized at pH 3.93 and 3.94 respectively. The acceptability of mango drink color was not affected by pH, temperature and final concentration. The acceptability of mango drink odour, taste, texture and overall liking, however, were affected by pH and final concentration. Odour liking score is maximized at pH 4.20 and final concentration of 37.71°Brix. Taste liking score is maximized at pH 4.31 and final concentration of 33.82°Brix. Texture liking score is maximized at pH 4.73 and final concentration of 34.29°Brix. The overall liking score is maximized at pH 4.52 and final concentration of 35.33°Brix. Lightness and yellowness of concentrated pulp show positive relationship with product acceptability. The taste and texture liking score were important parameters determining the overall acceptability of mango drink prepared from the concentrated pulp.