

Thesis Title      A Study of Mass Transfer in The Papaya Glacé  
Production  
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### Abstract

A mass transfer of water and sugar during syruiping process of the papaya glacé production were studied . In the process of this study, the effects of processing conditions on the quality of the final products were also studied.

It was found that to acquire acceptable quality of the final products, mature papaya must be soaked in the sulphur dioxide solution containing 1% calcium chloride for at least 2 weeks, with the blanching time of 45 minutes. Syruiping by a step-wise increase in the syruiping concentration of 5% at an interval of 12 hours gave better papaya glace quality than syruiping by a step-wise increase in the syruiping concentration of 10% at 24 hour intervals.

It was found that the change in the sugar concentration of the papaya with time during syruiping followed a hyperbolic function at low starting syrup concentration (<40%) and a sigmoidal function at high starting syrup concentration. The decreasing of sugar concentration in the syruiping solution with time also followed a sigmoidal function. The average convective diffusivity (K) over syruiping was found to be  $9.95 \times 10^{-7}$  gm./cm.<sup>2</sup> min..