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EFFECT OF MANGO PUREE THICKNESS ON REFRACTANCE WINDOW DRYING FOR MAKING MANGO LEATHER

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ABSTRACT

This study aims to evaluate the thickness effect of mango puree on the Refractance Window™ (RW) drying method and dried multiple layer mango leather properties. RW drying of mango puree of 2 mm and 4 mm thickness was done to make mango leather and its drying kinetics was studied. Four commonly used thin layer models were tested to determine the best fit model to describe drying kinetics. Colour and hardness measurements were done for the dried mango leather. The Page model (PM) was observed to best fit the experimental drying data with higher R^2 value (>0.99) and lower RMSE (<0.03), χ^2 (<0.05) value. The optimum time and temperature required to obtain the final product in RW dryer is 20-60 min depending upon the thickness of the mango puree layer and 95 ^oC, respectively. RW dried mango leather color and texture was achieved better from 2 mm layers than from 4 mm layers.

KEYWORDS: *Mango Leather, Refractance Window Drying, Thickness, Modeling, Color*