

Title Mass Transfer Kinetics of Longan Leather between Far Infrared and hot Air Drying
Author J. Somkiat and T. Kiatsiriroat
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Abstract

The aim of this work was evaluate the mass transfer kinetics of longan leather during far infrared drying compared to hot air drying. Three models of mass diffusion were applied to evaluate the effective moisture diffusivity. The first model was estimated using the analytical solution of Fick's law of diffusion and Arrhenius relation, which was used to solve the equation by iteration technique. The second model was similar to the first model but additional shrinkage parameter. The last model applied the modified Arrhenius relation as the function of temperature and moisture content. Comparison of far infrared drying with hot air drying done at equivalent parameter showed that time of the process can be shortened by up to 50%. The values of effective moisture diffusivity increased for the same values of drying air temperature and air velocity as applied radiation intensity was increased. The last model provide best fitted to experimental data, thus recommended for applied to analysis the simulation.