

Thesis Title	Drying of Agro-Products using Superheated Steam
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Abstract

The objectives of this research were to study the drying kinetic and the quality in the terms of color change and shrinkage of agro-products. The superheated steam and hot air were used as drying media. The experimental conditions were set up at temperatures of 120, 140, and 160 °C, specific air and superheated steam flow rate of 0.071 m³/s. The agro-products which were interested in the present work were the pork and fermented fish. Initial moisture contents of pork and fermented fish were 3.5 and 2.4 dry basis, respectively. The pork and fermented fish were dried to final moisture contents of 0.25 and 0.04 dry basis, respectively.

The experimental results showed that at temperatures of 120, 140 and 160 °C, the drying rate of pork and fermented fish using the superheated steam was lower than that using the hot air. The effective diffusivity of pork was higher than that of fermented fish. The drying rates of both products, calculated by using mathematical model, were in good agreement with the experimental results. The color of agro-products dried using superheated steam was more intense than that using hot air. The shrinkage of pork dried by superheated steam was lower than that using hot air. In case of fermented fish, the drying media had no effect on the size reduction after drying.