

Thesis Title	Bamboo Shoot Drying using Superheated Steam
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Abstract

The impact of different drying mediums on drying kinetic of bamboo shoot has been investigated. Superheated steam and hot air were used. The bamboo shoot with initial moisture content of 19 dry basis was dried to final moisture content of 0.17 dry basis using 120, 140 and 160°C drying temperatures, 0.024 kg/s specific air and superheated steam flow rate and 0.5 kg bamboo shoot.

The experimental results show that at temperature of 120°C, the drying rate of bamboo shoot using the hot air is considerably higher than that of using the superheated steam. However, when the temperature increase more than 140°C, the moisture reduction rate obtained from the use of both mediums is almost the same.

A theoretical diffusion model for slab including the evaporation at the surface of bamboo shoot can explain adequately the moisture transport inside the bamboo shoot for both drying mediums. The appropriate velocity varies between 1.5 m/s and 2.0 m/s.

The quality of bamboo shoot in term of colour after dried with the superheated steam and the hot air at high temperature range is poorer than that of commercial one whereas the preferred colour is obtained using hot air with temperatures of 55 and 70°C.

Keywords: Dehydration / Drying model / Superheated steam / Vegetable