

Title Combined microwave-hot air drying of peeled longan
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Abstract

Objectives of this research were to develop and evaluate a drying process for peeled longan using combined microwave-hot air (MWhA). Each experiment employed the peeled 'Dor' longan to be dried to final moisture content of 18% (dry basis). Hot air temperature was regulated for three levels: 40, 50, and 60 °C, coupled with MW regulated for four levels: 100, 180, 300 and 450 W. Results show that MWhA drying process yielded a unique convex-shaped drying rate period, followed by a falling rate period. A step-wised drying process using 40 °C hot air with 450 W-MW power for 1.7 h, followed by 60 °C hot air with 300 W-MW power for 3.3 h provided the maximum drying efficiency. Compared to the 65 °C hot air drying to obtain the golden brown flesh, combined MWhA process reduced drying time by 64.3% and specific energy consumption by 48.2%.