

A comparative quality study and energy saving on intermittent heat pump drying of Malaysian edible bird's nest

ABSTRACT

This paper aims to study the influence of temperature and relative humidity (RH) during intermittent heat pump drying at 28.6640.6°C, 16.2626.7% RH, $\phi = 0.261.0$, and the comparison was made against fan drying (27°C, 39.7% RH, $\phi = 1.00$). It was observed that the effects of temperature and RH on drying rate were significant when moisture content was high. Experimental results showed that intermittent heat pump drying at 28.6°C, 26.7% RH, $\phi = 0.2$ of edible bird's nest greatly reduced effective drying time by 84.2% and color change compared to fan drying, and retained the good energy efficiency.

Keyword: Color change; Edible bird's nest; Energy saving; Fan drying; Intermittent heat pump drying; Nitrite content