

Study on Heat Pump Dried Shrimp and Fish Cake

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Abstract: The peeled, headed and whole shrimp (*Pandalus borealis*) as well as the fish cake of 50 mm (diameter) × (7-9) mm (thickness) and 50 mm × (14-18) mm were dried in a heat pump dryer at -2~0°C and 20°C. The desorption isotherms of shrimp were investigated. The results show that the drying time decreased greatly as drying temperature increased from -2~0°C to 20°C. Drying temperature (-2~0°C or 20°C) has no measurable effect on the desorption isotherms of the headed and whole shrimp whereas it has little influence on peeled shrimp. The drying curves display that the drying process of shrimp and fish cake could be well described by the diffusion model ($MR = A \exp(-kt)$). The results demonstrate that the Oswin model ($X = a [a_w/(1-a_w)]^n$) is suitable for the predicting of the desorption isotherms of shrimp.