Title	Fluidized bed drying of osmotically dehydrated onion slices and selection of suitable drying model
Author	P.P. Sutar and Suresh Prasad
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Abstract

The onion slices were osmotically dehydrated for one hour in 20% NaCl solution with 0.2% potassium meta-bisulphite by maintaining osmotic solution temperature of 28°C, sample to solution ratio of 1: 5 and 100 shakes per minute agitation. Osmotically dehydrated onion slices were dried in a vertical column fluidized bed dryer at drying air temperatures of 40°, 50°, 60°, 70° and 80°C. The effect of drying air temperature on osmotically dehydrated onion slices was investigated. Drying curves were obtained and drying data were fitted to the different semi-theoretical and empirical thin layer drying models. The models were compared by three statistical parameters; i.e. root mean square error, reduced chi-square and modeling efficiency and the best fit model was selected. The quality parameters, such as rehydration ratio, optical density (non-enzymatic browning), chemical characteristics (ascorbic acid, reducing sugars and total sugars) and sensory quality (color, appearance and overall acceptability) of dehydrated onion were determined. Taking into consideration of the quality parameters of dehydrated onion and the drying time required, the drying air temperature of 70°C was found most appropriate for fluidized bed drying of osmotically dehydrated onion slices.