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Effect of pectin coating on the convective dehydration characteristics of osmosed pineapple samples

Charanjiv Singh

Sant Longowal Institute of Engineering and Technology, India

The pineapple samples were coated with pectin (0.5 to 5%) and osmotically dehydrated in sucrose solution and later convective dehydrated in hot-air oven at three temperatures (55, 65 and 75° C). The effect of both coating and temperature on the drying characteristics and quality parameters of dehydrated samples were studied. The dehydrated time of uncoated samples was less than coated samples at all the three temperatures. The drying rate of uncoated samples was more than the coated sample. The effective moisture diffusivity varied in the range of 1.901x10-10 to 3.137x10-10 m2/sec. Activation energy for uncoated and coated samples was found to be 19.12KJ/mole and 17.54KJ/mole, respectively. A non-linear regression procedure was used to fit five thin-layer drying models to the experimental drying curves. The Midilli model has shown a better fit to the experimental data as compared with other models. The pectin coated sample maintained the natural color of the fruit better as compared to uncoated sample.

Biography

Charanjiv Singh is currently serving as an Associate Professor in the Department of Food Engineering and Technology, Sant Longowal Institute of Engineering and Technology, India from August 1997 till date. He is also engaged in guiding M Tech and PhD students and teaching of classes of Degree Diploma in Food Processing (DFP) and Certificate in Food Technology (CFT).

charanjiv_cjs@yahoo.co.in