KINETICS OF OSMOTIC DEHYDRATION IN COCONUT (*Cocos nucifera* L.) CHIPS

D.D.I. Dhanushika[1], H.A.E. Samaranayake[2] and A.J. Fernando[1]

[1]Department of Agricultural Engineering and Soil Science, Faculty of Agriculture, Rajarata University of Sri Lanka, Puliyankulama, Anuradhapura, Sri Lanka
[2]Coconut Processing Research Division, Coconut Research Institute, Lunuwila, Sri Lanka

Osmotic dehydration is used to retain quality of food while improving the shelf life of the food in drying. Drying coconut kernel chips combined with the osmotic dehydration improves the quality of coconut chip snack, saves energy and reduces the processing time. In this study, the osmotic dehydration process of coconut chips was standardized by optimizing the kinetics of mass transfer. The weight reduction, sugar gain and water content loss were measured for osmotic concentrations of 40, 50 and 60 °Brix sucrose at room temperature 35, 45 and 55 °C of solution temperatures. Osmotic solution to coconut kernel ratio of 4:1 was maintained for one hour for each treatment. The oven drying was carried after the osmotic dehydration process to identify the optimum drying time for coconut chips. The water loss, weight gain and sugar gain of coconut chips increased as the sucrose concentration and osmotic processing temperature increased. The optimum water loss, sugar gain and weight gain were 0.03±0.01, 0.28±0.02 and 0.25±0.01 (g/g of initial mass), respectively. The optimum moisture content of 2.1% on dry basis was achieved in five hours for the same sample.

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