

Title Effects of chitosan coating on mass transfer during osmotic dehydration of papaya
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Abstract

The aim of this work was to evaluate the influence of chitosan coatings in the osmotic dehydration of scalded cut papaya var. Red Maradol in two ripening stages (green and ripped). Papaya cubic cuts (1 cm³) were divided into three groups depending on the treatments: without chitosan coatings; with chitosan coatings at 1% (w/v) in lactic acid 1% (v/v) and Tween 80 at 0.1% (v/v); and with chitosan coatings at 1% (w/v) in lactic acid 1% (v/v), Tween 80 at 0.1% (v/v) and oleic acid at 2% (v/v). The study of dehydration kinetics and mass transfer was carried out with osmotic solution of sucrose (40°Brix) in a ratio fruit/solution of 1:60, and weight reduction, water loss and solids gain were measured. Chitosan coatings improved the efficiency of osmotic dehydration process in both ripening stages, increasing the water loss and decreasing the solids gain.