

Osmotic Dehydration and Microwave-Drying of Guava Fruit

Part 1: Optimisation of Osmotic Dehydration Parameters

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Abstract

This study investigated osmotic dehydration of guava fruit (*Psidium guajava* L.). Two mechanical pretreatments were tested – cutting in thin slices with (thickness of 4mm and diameter of 50mm) and cutting in spheres (diameter of 20mm). Two osmotic agents were tested: Sucrose solution and High Fructose Corn Syrup (HFCS), two concentrations of HFCS solution (66°Bx and 76°Bx) and five residence times for the osmotic process (1.5, 5, 10, 18 and 24 hours). It was demonstrated that cutting the fruits in slices and immersing them into HFCS at 76°Bx for 18 hours was the best way to significantly decrease the water content and maximise the sugar gain, thus facilitating subsequent drying.

Keywords: Drying pretreatment, fruit dehydration, guava, moisture loss, osmotic dehydration.