

Osmotic Dehydration and Microwave-Drying of Guava Fruit

Part 2: Microwave-Convective and Microwave-Vacuum-Drying

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Abstract

The main objective of this study was to evaluate and compare two different drying methods of guava fruit (*Psidium guajava* L.) - atmospheric and subatmospheric, both involving microwaves (MW) as an energy source. This paper entails three components – MW and hot-air drying of guavas, MW and vacuum dryings of guavas, and comparison between these two. Osmotically-dehydrated guavas were microwave-dried using two temperatures of hot air (33°C and 43°C), two levels of MW mode (30 seconds on/30 seconds off, 30 second on/45 seconds off) and two MW power levels (40W and 50W). MW-vacuum part of the research tested two parameters – MW power mode (30 seconds on/45 seconds off and 30 seconds on/60 seconds off) and two power levels (50W and 60W). In subsequent comparison, several quality parameters were evaluated using two of the better methods of drying.

Keywords: Fruit dehydration, guava, hot-air drying, vacuum-drying, water loss.