

Title Effect of Plate Temperature of Partial Freeze Dryer of Green Asparagus
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Citation Proceedings: Abstract Summary, International Conference on Agricultural, Food and Biological Engineering & Post Harvest/Production Technology, Sofitel Raja Orchid Hotel, Khon Kaen, Thailand, 21-24 January 2007. 204 p.
Keywords Freeze Drying; green Asparagus; Drying Rate; Rehydration Ration; Moisture History

Abstract

The asparagus were dried by hot air oven at 60°C and partial freeze drier at different plate temperature (50, 60, 70, and 80 °C). Asparagus spears with diameters between 7.7 and 12.9 mm, cut into 15 mm length, were blanched in hot water at temperature of 85 °C. After different drying methods, quality of products was measured such as moisture content and water activity, rehydration ratio. The results showed that the moisture content and water activity of finished products were less than 3.3 %(wb) and 0.435 respectively. Drying kinetics of green asparagus during partial freeze drying was studied. An exponential equation was used to express this influence. The drying rate was related to the plate temperature, which increased linearly as the plate temperature increased in the temperature range examined, ranging between 5.55 to 11.31% mc/hr. The rehydration ratio of partial freeze dried materials was different as the sample temperature (70 °C) and same time (30 min.) increased for all the materials examined than hot air drying, Rehydration ratio of partial freeze dry was ranging 1:4.66 to 1:6.51.

Abbreviations, HAD = Hot Air Dry, PFD = Partial Freeze Drying, MC = Moisture content, DR = Drying Rate, RR = Rehydration Ratio