Alibas I (2007) Microwave, air and combined microwave–air-drying parameters of pumpkin slices. LWT-Food Science and Technology 40(8):1445-1451.

Abstract

Pumpkin slices (*Cucurbita maxima*) which weighs 50 g with moisture of 9.31 g water/g dry solids, were dried using three drying methods, microwave, air and combined microwave–air. Drying continued until slice moisture reduced to 0.1 g water/g dry solids. Two different microwave output powers 160 and 350 W were used in the microwave drying. Drying treatments in air-drying were 50 and 75 °C and 1 m/s fan speed. The combination drying in which microwave and air-drying were applied together was four different combination levels. Drying periods lasted 125–195, 45–90 and 31–51 min for microwave, air and combined microwave–air-drying, respectively, depending on the drying level. Energy consumption was 0.23–0.34, 0.61–0.78 and 0.29–0.42 kW h, respectively. In this study, measured values were compared with predicted values obtained from Page's semi-empirical equation. Optimum drying period, colour and energy consumption was obtained when microwave and air-drying was applied simultaneously and the optimum combination level was 350 W microwave applications at 50 °C.

Keywords: Air; Colour; Combined; Drying; Microwave; Pumpkin