ABSTRACT

Drying with osmotic dehydration pretreatment of mango slices is one of efforts to extend the shelf life of mangoes. Drying characteristics of chitosan coated arumanis mango slices pretreated by osmotic dehydration was investigated in this research. The osmotic solution used was 42 and 66 °Brix. Drying rate, decrease of moisture content, moisture content equilibrium, drying constant, and shrinkage coefficient has been used as a drying characteristic parameters. In addition, the quality evaluation of the dried mango was performed. The quality was determined by image processing and sensory evaluation methods. The drying experiments were carried out at temperature of 40, 50, and 60 °C at fixed absolute humidity. Drying temperature and osmotic dehydration affected the parameters of drying characteristics. The highest drying rate and decreasing moisture content was obtained at 60 °C drying temperature. From all levels of drying temperature, drying rate and decreasing moisture content fresh mango slices higher than other treatments. Fresh mango slices also has the highest equilibrium moisture content. From all drying treatments, osmosed noncoated mango slices has a better quality than others treatments.

Keywords : drying, osmotic dehydration, mango