

Title Effect of dipping treatment on air drying of plums  
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### Abstract

In this present study, samples of plums were pretreated in alkali solution containing ethyl oleate and dried in a laboratory dryer at 65 °C and 1.2 m/s air velocity. The effect of ethyl oleate solution on drying time of plum samples was investigated. Pretreatment of plums with ethyl oleate increased the rates of convective drying. Drying time of pretreated samples was 29.4% shorter than that of untreated samples. Diffusion coefficients of treated and untreated samples were estimated to lie between  $2.171 \times 10^{-10}$  and  $2.401 \times 10^{-10}$  m<sup>2</sup>/s. Six semi-theoretical thin layer models were compared according to their coefficient of determination ( $R^2$ ), sum square error (SSE) and root mean square error (RMSE) to estimate air-drying curves. Comparing the  $R^2$ , SSE and RMSE values of all models, it was concluded that the two-term exponential model for untreated, Wang and Singh model for pretreated plums represents drying characteristics better than the other models.