Drying Kinetics of Indian Gooseberry/Anola (*Phyllanthus Emblica)* in A Tray Dryer

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ABSTRACT

Aonla or Indian gooseberry (*Phyllanthus emblica.)* is one of the most important traditional and underutilized fruits of Indian origin, having immense potential for cultivation on marginal or waste lands. Drying is the important post-harvest operation with the maximum losses occurring during this period. Fresh Indian gooseberry fruits were purchased from a local market and cut into desirable sizes. The tray dryer was used for drying of aonla slices at different temperatures of 50, 60 and 70 °C. The drying rate decreased continuously throughout the drying period. Constant rate period was absent and the drying process of aonla slices took place in falling rate period. Drying time decreased with increase in temperature. The time taken for tray dryer at 70 °C was very short for complete drying of aonla slices. Mathematical models were fitted to the experimental data and the performance of these models was evaluated by comparing the coefficient of determination (R^2), reduced chi-square ($\div^2$) and root mean squre error between the observed and predicted moisture ratio. Page model gave the best results for describing the drying kinetics of anola.

Keywords: *Indian gooseberry/Anola, Mathematical modelling, Tray drying,*