

Convective drying of rectangular-shaped moist object has been analyzed both experimentally and numerically. Transient mass of the potato sample is measured experimentally. Moisture content, diffusivity, and density of the object are calculated at different drying air temperatures from 40°C to 70°C with an air velocity of 2 m/s. A three-dimensional (3D) finite volume method (FVM) based numerical model is developed to predict the temperature and moisture distribution. A computational fluid dynamics (CFD) code is used for predicting heat and mass transfer coefficients required in the boundary conditions of the heat and mass transfer model. The experimental and numerical data are compared and good agreement is observed.