

Abstract

The aim of our study is to determine the drying curve and the change rate of drying by solar energy on two plant materials, olive pomace, and colocynth, depending on solar radiation. The dynamics of drying is monitored using an indirect solar dryer operating in forced convection, located at the UDES west of Algiers. We determine the influence of some parameters on the drying kinetics. We used two plant materials according to well-defined quantities which are characterized by different initial moisture content (Mafart P., 1991). In order to verify the reliability of the dryer to dry different products with different humidity, we studied the variation of the solar radiation, drying rate and variable ambient temperatures. At the end of work we simulate using a software results in the change of obtaining plans designating the experimental curves obtained after the change of several parameters such as air temperature along the path in the dryer, as well as mass loss and speeds drying products subjected to drying.