ABSTRACT

Soymilk is an economical alternative to dairy milk, with low saturated fat and non cholesterol. Nowadays, there are more demands on soymilk powder, for having a longer shelf life, low transportation and storage cost, and easier to be distributed to various area. In this research, fluidized bed particle inert dryer is used to obtain soymilk powder, in which, compared to spray dryer, it needs lower investment and operational cost. The aim of this study is to investigate the influence of gas temperature and flowrate, and initial moisture content of feed on the drying rate and to examine the quality of powder obtained. Variable of this study consists of gas temperature (40, 50, 60, 70, 80°C), gas flowrate (0,025; 0,030, 0,035, 0,040, 0,045 kg/s), and initial moisture content of feed (18, 19, 20, 21, 22%). The result shows an increase in drying rate with increasing gas temperature and flowrate, and initial moisture content of feed. Efficiency of the powder production increases with increasing gas temperature and flowrate and initial moisture content of feed. The wettability and dispersibility of powder needs to be improved, while its flowability and cohesivity is good.

Keywords : fluidized bed dryer, inert particle, powder, soymilk