عنوان مقاله:
Moisture-Dependent Physical Properties of Saffron Flower

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خلاصه مقاله:
In order to provide the data needed for the design of saffron processing equipment, physical properties of its flower were investigated. These properties included dimensions, mass, true and bulk densities, porosity, static and dynamic coefficients of friction, and terminal velocity as a function of moisture content. The average range of these properties for the three different parts of saffron flower was about ۰.۰۳ to ۰.۱۶ gcm-۳ for bulk density, ۰.۵۵ to ۱.۵۶ gcm-۳ for true density, and ۸۵.۲ to ۹۵.۵% for porosity. Also, the coefficients of friction were measured for three flower parts by using three surface materials including plywood, iron, and galvanized steel sheets. The minimum and the maximum values of static coefficients of friction were found on galvanized steel sheet. They were ۰.۸ and ۲.۱۴ for anther and stigma, respectively. The dynamic coefficient of friction ranged from ۰.۴۵ for anther on iron to ۱.۱۴ for petal on galvanized steel sheet. The variation range of terminal velocity for three different parts of the flower was recorded between ۰.۹ and ۲.۳۸ ms-۱. The results of friction coefficients and terminal velocity measurements suggest that, based on these properties, design of a separator for saffron flower parts is feasible.

کلمات کلیدی:
Physical properties, Terminal velocity, Saffron flower