

## عنوان مقاله:

Modeling of moisture ratio and shrinkage of onion slices during hot air drying

## محل انتشار:

ششمین کنگره بین المللی مهندسی شیمی (سال: 1388)

تعداد صفحات اصل مقاله: 8

## نویسندگان:

Sedigheh Abbasi - *Chemical Engineering Dept., Faculty of Engineering, Ferdowsi University of Mashhad*

Seyed Mahmood Mousavi - *Chemical Engineering Dept., Faculty of Engineering, Ferdowsi University of Mashhad*

Mohebbat Mohebbi - *Food Science & Technology Dept., College of Agriculture, Ferdowsi University of Mashhad*

## خلاصه مقاله:

Onion slices were dried under different processing conditions by hot air dryer. Slice thickness, air velocity were constant and inlet air temperature, drying time were varied to study the drying and shrinkage behavior. Thin layer drying of onion slices was carried out at air temperatures of 60, 70, 80 and 90 °C and air velocity of 1.5 m s<sup>-1</sup>. The constant rate period is absent from the drying curves. The drying process took place in the falling rate period. 12 available moisture ratio models and 5 available shrinkage models were fitted to the drying data. In modeling of moisture ratio the Midilli-Kucuk model, and for modeling of shrinkage, at air temperatures of 60 and 70 °C the Lozano 1983 model, and at air temperatures of 80 and 90 °C Vazquez model had a higher correlation coefficient ( $R^2$ ), and low sum of squares error (SSE) and thus predicted drying and shrinkage behaviour of the onion slices more accurately.

## کلمات کلیدی:

Moisture ratio; Shrinkage; Onion; Drying; Modeling

## لینک ثابت مقاله در پایگاه سیویلیکا:

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