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Investigation on drying kinetic, effective diffusivity coefficient and activation energy in shelled hazelnut (*Corylus avellana*) drying process

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The goal of this research was to study kinetic of shelled hazelnut at temperature range of 40-60°C that beside drawing curve of moisture changes at different temperature and modeling frying process, effective diffusivity coefficient, activation energy, total energy, specific energy required for drying shelled hazelnut was calculated in single-layer form. Result of consideration showed that the duration of drying at 60°C was 34.42 and 20 percent less than 40 and 50°C. In modeling the process of drying hazelnut Midilli et al in 3 temperatures of drying has had the most suitable fitting with data of experiment comparing to other models. Also, effective distribution coefficient in dried hazelnut samples at different temperature changes between 1.26373×10-10 and 1.50064×10-10 m2/s. Activation energy for hazelnut at temperature range of 40-60°C 29.622 KJ/kg and effective penetration constant was obtained 1.1×10-5.

Biography

Zahra Yousefi has completed her PhD from Science and Research Branch, Islamic Azad University. She is the Boss of Roudbar Olive Research Station of Iran. She has published more than 6 papers in reputed journals.

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