

### **Abstract**

Equilibrium Moisture Content is an important parameter for several post-harvesting operations for pistachio nut, such as: drying and storing processes. In this research for investigating the hysteresis effect on pistachio nuts, the adsorption and desorption equilibrium moisture contents were determined for two major varieties of Iranian pistachios for 0.11 to 0.85 relative humidities at constant temperature of 50°C. Controlled environmental chambers were employed for the experiment and static method was adopted to reach the equilibrium end points. A significant hysteresis effects between adsorption and desorption processes were observed statistically. To predict the adsorption and desorption EMC, the well known Halsey, Oswin and Smith models were adopted. The Halsey model was found the most proper equation for adsorption processes for two varieties (Ohadi and Kaleh ghochi) whereas Oswin and Smith equations were the most appropriate for Ohadi and Kaleh ghochi for desorption processes respectively at constant temperature of 50°C.