

**Title** Evaluation of alternative date harvesting methods in Iran  
**Authors** M. Mazlounzadeh, M. Shamsi  
**Citation** ISHS Acta Horticulturae 736:463-469. 2007.  
**Keywords** date palm mechanization; harvesting machines; palm harvesting

### **Abstract**

Date is an important agricultural product in the Middle East including Iran. From 1961 Iran has been producing about 15 to 20 percent of the total world production and is the second largest producer of dates. Most of the dates are still harvested manually. There is no mechanized method available that covers all needs. Simple, general purpose lifting machines of various models are an alternative for date harvesting in this country. Using mechanized methods and harvesting machines in date yards of developed countries like USA reduced harvesting costs by 50%. In this research the characteristics of available lifting machines in Iran were measured and compared to find the acceptable range of size and value of features required for a technically and economically feasible machine. The physical properties of trees and tree spacing were also measured to complete the research. Average values of the main features of existing lifting machines in Iran were calculated as: lifting height: 13 meter; weight: 15650 N; payload: 2000 N; lateral expansion: 5.58 m; machine length: 5.23 m; width: 2 m; transport height: 3 m; average selling price: 150 million Rials. Results revealed that most of the available machines are not acceptable to date growers. They would require machine features in the following range: lifting height: 10 meter; payload: 1100 – 1300 N; climbing speed: 0.41 m/s; machine width: less than 2 m; height: less than 2.5 m; lateral accessibility: of 1 m; average selling price: 30 million Rials.