

Title Effect of dehydration conditions on the quality characteristics of date fruits cv. 'Barhee' in rutab stage

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Abstract

Date fruit is a berry type fruit that could be consumed in at least three stages of its growth that are known as Khalal, Rutab and Tamar. The Rutab stage is characterized by a decrease in weight, a partial inversion of sucrose into invert sugar, browning of fruit skin and softening of the tissues. In this stage fruit have 30-45% moisture content and are very perishable. "Barhee" is one of the commercial date cultivars in south Iran. of this cultivar, If handled with care, well matured fruit at the Rutab stage provide growers with the highest income. However, Rutab stage of "Barhee" fruit has some serious quality setbacks such as short peak period of production, high perishability and very delicate texture, which makes its handling and transport difficult and expensive. Dehydration is a process to reduce moisture content of fruit in order to preserve them from harmful microbiological processes such as fermentation, souring or the emergence of mould and that also reduce the risk of sugar crystallization. The present research was carried out during 2005 growing season in Tarbiat Modarres University (TMU), to explore the effect of different times and temperature of dehydration on quality factors of "Barhee" date fruits in the Rutab stage. The physico-chemical properties of fruits under two temperature regimes (40°C and 50°C) and three time periods (24, 48 and 72 hours) was studied and dehydrated fruits was analyzed for fruit skin color, flesh darkening, water content, flesh firmness, total soluble solids, water activity, acidity and sugars (sucrose, glucose and fructose). Fruit quality attributes changed increasingly under dehydration treatments. In terms of consumer satisfaction criteria, the best dehydration condition must be used. This research is continuing in order to monitor the effect of storage period on the quality characteristics and performance of dehydrated fruits.