

Title Effect of dehydration on the quality and storage stability of immature dates (*Pheonix dactylifera*)

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Citation LWT - Food Science and Technology, Volume 41, Issue 2, March 2008, Pages 278-283

Keywords Dates; Dehydration; Date processing; Storage stability; Date quality characteristics; Date maturity

Abstract

Dates (*Pheonix dactylifera*) harvested from Kutch district of Gujarat, India were processed for the development of dehydrated dates. Dates grown in the Kutch region of Gujarat are harvested before maturation, i.e. Khalal stage to prevent spoilage caused due to rains. The processing and dehydration conditions for the preparation of dehydrated dates from immature date fruits were evaluated. Processing of dates by blanching in water at 96 ± 1 °C and subsequent dehydration at 60 ± 2 °C for 18–20 h resulted in good quality dehydrated dates as compared to the dates dried without heat treatment. The dehydrated dates were found to be acceptable with respect to colour, flavour, taste and overall quality. The dehydrated dates contained a total sugars of 520 g kg^{-1} , reducing sugars of 415.1 g kg^{-1} , tannins 13.5 g kg^{-1} and ascorbic acid 33.7 mg kg^{-1} . Equilibrium relative humidity (ERH) of the dehydrated dates was found to be 75.9% with an initial moisture content of 159 g kg^{-1} . The dehydrated dates packed in 75μ low-density polyethylene packaging material were shelf stable for 6 months at room temperature. The dehydrated dates remained acceptable during the storage period.