

Title Effects of food irradiation on shelf life, qualitative and quantitative properties of date fruit (Sayer variety)

Author Mohammad Reza Garshabi

Citation Program and Abstracts, 4th International Symposium on Tropical and Subtropical Fruits, November 3-7 2008, Bogor, Indonesia. 215 pages.

Keyword Date fruit; Sayer variety; food irradiation; Y-ray; qualitative and quantitative properties

Abstract

Sayer variety date fruit is one of the most commercial and important date varieties in Iran. Its fruits in tamar stage are semi-dry. Date packaging factories and packinghouses use chemical fumigants especially methyl bromide to control and eliminate pests-storage. Because of bioenvironmental dangers, FAO advises replacing of this method by clean and safe methods like food irradiation. This research was conducted with y-ray to study the effects of food irradiation on qualitative and quantitative properties of Sayer variety date fruits as a factorial experiment using completely randomized design (CRD) with 3 factors and 3 replications in Iran in 2005. The factors were: plastic covers (2 factors), irradiation doses (5 factors), sampling time after irradiation (5 factors). Qualitative and quantitative properties of fruit including pH, total acidity, total and reducing sugars, TSS and water content, color and taste were measured. The results showed that irradiation dose up to 1000 Gy, did not affect on any of the fruit properties and so increased shelf life of fruits and eliminated pests-storage.