

**Title** Possibility of citric acid production from post-harvest losses of date fruit (Sayer variety)  
**Author** Mohammad Reza Garshasbi  
**Citation** Program and Abstracts, 4<sup>th</sup> International Symposium on Tropical and Subtropical Fruits, November 3-7 2008, Bogor, Indonesia. 215 pages.  
**Keyword** Date fruit; Sayer variety; post-harvest losses; citric acid; *Aspergillus niger*; submerged

#### **Abstract**

The amount of date fruit losses is relatively high in Iran that can be used in producing valuable by-products e.g. citric acid. Sayer variety date fruit is one of the most commercial and important date varieties in Iran. The objective of this study was investigation of possibility of citric acid production from post-harvest losses of Sayer variety date fruits using *Aspergillus niger* ATCC 5010 in submerged culture. This research was carried out as a factorial experiment using completely randomized design (CRD) through Taguchi method with 5 factors and 3 replications. The factors were: fermentation period (3 factors), agitation rate (2 factors), fungal inoculum's rate (3 factors), added methanol rate (3 factors) and total sugar rate of date extract (3 factors). Total sugar and produced citric acid were measured by Somogyi-Nelson and Boulet-Marrier (colorimetric) methods during 2005-2006. The results showed that *Aspergillus niger* physiological ability to produce citric acid in submerged culture was increased with enhancing the rate of each factor.