



Possibility of citric acid production by wastes of date fruit processing and packaging factories

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Citric acid is one of the most important organic acids in food industries. On the other hand wastes of date fruits are high in Iran that can be used to produce by-products like citric acid. The objective of this study was to evaluate the possibility of citric acid production by wastes of date fruit processing and packaging factories using submerged culture method and *Aspergillus niger* BC1. This research was carried out using Taguchi method and five treatments i.e. sugar amount of date extract, microorganism concentration, fermentation time, methanol rate, agitation rate with three replications in date palm and tropical fruits research institute of Iran in 2006. Sugar amount and produced citric acid at samples were measured using Lane-Eynon and Marrier- Boulet methods. The final results of analytical studies showed that the highest amount of citric acid was produced by 20% sugar amount of date extract, 107 spores per milliliter of mold spore suspension, 9 days of fermentation, 2% methanol and 100 rpm agitation rate.

Keywords: Date fruit, Wastes, Citric acid, *Aspergillus Niger*, Submerged culture method, Taguchi method

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