

عنوان مقاله:

Optimizing fermentation conditions of glutamic acid production from dates fruit wastes as substrate by corynebacterium glutamicum

محل انتشار:

چهارمین همایش ملی بیوتکنولوژی ایران (سال: 1384)

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خلاصه مقاله:

The aim of this study was L-glutamic acid production from Corynebacterium glutamicum by utilizing a dates fruit wastes as substrate. Screen design was used to optimize glutamic acid production. In this test the effects of seven various parameters were investigated. These parameters include microorganism type Corynebacterium glutamicum (CECT690, CECT77), dates fruit wastes content(10gr,25gr), temperature(30 oC,39 oC), nitrogen source type (yeast extract, urea), phosphate content(0gr,2gr), penicillin time addation (8h,16h) and biotin content(0,100µgr/lit). Analysis results of sugar and elements of dates fruit wastes indicated that this is an enrich substrate for bacteria growth. Quantity analysis carried out by high-performance liquid chromatography. Statistical analysis by screen design shows that optimum conditions to produce glutamic acid are: Corynebacterium glutamicum (CECT690), temperature(30 oC), dates fruit wastes content(10gr), nitrogen source type (urea 0.19gr/100ml), phosphate content(0gr), penicillin addition time (8h) and biotin content(0), MnSO₄.H₂O 0.001 gr/100ml, FeSO₄.7H₂O 0.001 gr/100ml, MgSO₄.7H₂O 0.2 gr/100ml.

کلمات کلیدی:

Glutamic acid, Corynebacterium glutamicum, dates fruit wastes, Optimizing, Fermentation

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