

عنوان مقاله:

Evaluation of Ethanol Production from Tannin-Reduced Carob Pod Extracts by *Zymomonas Mobilis*

محل انتشار:

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خلاصه مقاله:

Regarding some reported antimicrobial properties of tannins; *Zymomonas mobilis* was used to obtain ethanol from tannin-reduced carob pod extract (TR-CPE). Culture of 50 mL volume containing 7.5 g sugar at pH 5.5 and 0.03 g bacterial inoculums with shaking at 100 rpm was used. Using response surface methodology (RSM), the maximum ethanol concentration of 5.34 % w/v (higher than that reported earlier, 4.01% w/v) was obtained at the optimized addition levels of yeast extract, peptone, and fermentation time; 0.13 g, 0.62 g, and 43.78 h, respectively. Carob pods extract (CPE) containing 62.23 g/l⁻¹ sugar was treated with 3 g/l⁻¹ gelatin to decrease its tannin content by 57.87 %. Sugar loss was not observed during gelatin treatment. The results revealed that there was no significant difference in ethanol production, yield, and productivity between TR-CPE and non-TR-CPE. In conclusion, tannin showed no .inhibiting effect to maximum ethanol production by *Zymomonas mobilis*

کلمات کلیدی:

Carob pod extracts, Ethanol production, Tannin-reduced, *Zymomonas mobilis*

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