

## عنوان مقاله:

Simultaneous saccharification and fermentation (SSF) of rice cooker wastewater by using *Aspergillus niger* and *Saccharomyces cerevisiae* for ethanol production

## محل انتشار:

دوفصلنامه تحقیقات کاربردی در آب و فاضلاب، دوره 2، شماره 1 (سال: 1394)

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## خلاصه مقاله:

This work examined the simultaneous saccharification and fermentation (SSF) process for the biological conversion rice wastewater into ethanol using co-culture of *Aspergillus niger* (A. niger) and *Saccharomyces cerevisiae* (S. cerevisiae) in batch condition. In this study, The A. niger and S. cerevisiae were used for hydrolysis and production of ethanol from rice wastewater, respectively. The Effects of fermentation parameters such as pH (4, 4.5, 5 and 5.5), temperature (25, 30, 35 and 40 °C), incubation period (12 to 72 h), incubation time (12 to 72 h) and nitrogen source on SSF were evaluated. The results showed that among the optimal parameters of pH 5, temperature 35 oC, incubation period 36 h, incubation time 36 h and nitrogen source of (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> were obtained in ethanol production by SSF process. Under these optimized conditions, maximum ethanol production and product yield were 16.97 g/l and 0.36 g/g, respectively

## کلمات کلیدی:

Ethanol production Rice wastewater SSF A. niger S. cerevisiae

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/926437>

