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Utilization of yeast industry wastewater (YIW) as a fermentation medium for the production of bioethanol

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The utilization of yeast industry waste water (YIW) to produce ethanol by *Saccharomyces cerevisiae* was studied. Ethanol production was investigated in batch liquid culture at different modes of operations after optimizing process parameters. The maximum ethanol production after 48 hours was 41.86 g/l. The yeast growth ceased after 48 hours of fermentation as CFU was declined and the sugar concentration was accumulated. In sequential production of ethanol in two stages bioreactor system, the maximum ethanol production from the first stage was 42.87 g/l while the maximum ethanol production from the second stage without sugar addition was 39.86 g/l. This scheme of production lasted for 10 days with a steady productivity accomplishment. In conclusion, YIW is a promising substrate for the bio-ethanol production, with additional benefits of its use regarding environmental and economic aspects.

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