
BIOSURFACTANT PRODUCTION BY *WICKERHAMOMYCES ANOMALUS* CCMA 0358

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In this work, biosurfactant production by *Wickerhamomyces anomalus* CCMA 0358 was increased through the development of an optimized culture medium using response surface methodology. The optimized culture medium contained yeast extract (4.64 g/L), ammonium sulfate (4.22 g/L), glucose (1.39 g/L) and olive oil (10 g/L). Biosurfactant production using this medium was validated both in flasks and bioreactor, and the surface tension was reduced from 49.0 mN/m up to 31.4 mN/m and 29.3 mN/m, respectively. In both cases, the highest biosurfactant production was achieved after 24 h of growth. *W. anomalus* CCMA 0358 demonstrated to be a fast biosurfactant producer

(24 h) as compared to other yeast strains previously reported (144–240 h). The produced biosurfactant remained stable at high temperature (121°C), NaCl concentrations as high as 300 g/L, and pH values between 6 and 12. The crude biosurfactant allowed the recovery of 20% of crude oil from contaminated sand, being a promising candidate for application in bioremediation or in the petroleum industry.SY