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THIRAWATTHANA PHARAMAT : PRODUCTION OF CITRIC ACID FROM IMMOBILIZED *Candida oleophila* C-73 IN A BATCH CULTURE 5-L FERMENTER.
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The production of citric acid from immobilized *Candida oleophila* C-73 in a 5 litre fermenter was investigated. The optimal condition of cultivation were 28° C of incubation, 600 rpm of agitation speed, 1.0 vvm of aeration rate, 15 g/l of calcium alginate beads and 0.5-1.0 mm in bead diameter. The citric acid production rate and the highest citric acid productivity after 96 hours of cultivation were 2.25 g/l.hr. and 137.07 g/l, respectively. Comparison using 10 g/l of immobilized beads in batch and a fed-batch fermentation showed that amount of citric acid was obtained as 136.45 g/l after 7 days of cultivation by the batch fermentation. The fed-batch fermentation showed the highest citric acid productivity of 136.81 g/l after 5 days of cultivation. Accumulation of citric acid in fermentation broth at the high productivity showed that the viscosity was approximately 3,872 centipoise after 96 hours of cultivation.

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