

Effect of culture pHs and aeration rates on poly( $\gamma$ -glutamic acid) production by batch culture of *Bacillus* sp. RKY3

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In order to investigate the effect of culture pHs and aeration rates on poly( $\gamma$ -glutamic acid) ( $\gamma$ -PGA) production, batch fermentation of *Bacillus* sp. RKY3 was carried out using modified E medium. Culture pHs between 5.0 and 8.0 were tested, and non-controlled pH experiment was also carried out. The maximum  $\gamma$ -PGA was obtained as 42g/L at non-controlled pH. Among the culture pHs tested, the highest molecular weight of  $\gamma$ -PGA was obtained as 85,000 at pH 7. During batch fermentation at non-controlled pH, the culture pH varied from 6.4 at 7.3. In addition, maximum dry cell weight and  $\gamma$ -PGA were obtained as 1.8g/L and 40g/L, respectively, at 0.5 vvm.

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