

Ethanol Production from Biomass using *Enterobacter aerogenes*

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A lot of studies have been focus on the development of environmental friendly processes that use renewable raw materials. Waste glycerol is a by-product of biodiesel process. As biodiesel production increase, the development of new process to glycerol into value-added products is need. *Enterobacter aerogenes* is able to utilize glycerol as a sole source of carbon and produce ethanol is one of value-added products. Waste glycerol contains various inhibitory compounds, such as salts (NaCl and KCl) and MONG (matter of organic non glycerol), and has broad pH range. In this study, we investigated the effects of pH, glycerol concentration and salts on cell growth and ethanol production of *E. aerogenes*. Cell growth and ethanol production was higher at pH 5 than other pH ranges. In condition of high glycerol concentration (over 10 g/L), the inhibitory effect was found. As the concentration of salts increased, cell growth of and ethanol production of *E. aerogenes* decreased.