

***Rhodosporidium sphaerocarpum* oil production from cassava wastes**

Jirasin Koonthongkaew and Ancharida Svarajara

Department of Microbiology, Faculty of Science, Chulalongkorn University

Abstract: Biodiesel is produced by transesterification reaction of triacylglycerol (TAG) and alcohol. The TAG is found to be accumulated in several microbes including bacteria, yeast, fungi and algae. Fatty acid profile of yeast TAG is similar to those of vegetable oil. Cultivation of yeast does not require large area, fast growth, easy scaling up and extraction step. Yeast is therefore the most interesting TAG accumulating microbes. High TAG accumulation occurs when yeast is grown in excess carbon but low nitrogen condition. In this condition, AMP deaminase is activated. This leads to reduce in AMP, isocitrate dehydrogenase activity but increase in citrate concentration. These citrates enter fatty acid synthesis pathway upon converting to acetyl CoA. Lin et al. (2011) reported that TAG accumulated in *Lipomyces starkeyi* cells suspended in glucose solution increased. This indicated that yeast cell growth and TAG accumulation could be performed separately. In this study, TAG accumulation of *Rhodosporidium sphaerocarpum* cells was investigated in cassava waste hydrolysate.

Keywords: Triacylglycerol, *Rhodosporidium sphaerocarpum*, cassava waste hydrolysate, TAG

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