

Kajian Penanganan Limbah Hasil Delignifikasi dan Hidrolisis Tandan Kosong Kelapa Sawit (TKKS) menggunakan Kultur Mikrobial Campuran (*Mixed Culture*) Cairan Rumen Sapi

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ABSTRAK

During EFBO's delignification and acidic hydrolysis process, not all of lignocellulosic materials can be converted into monomer source. Handling of the by-product was carried out using mixed culture of cattle's rumen juice in anaerobic condition. The best result of the handling on the ratio of delignification medium by-product:hydrolysis:buffer solvent was 1:1:1 (w/v/v). Degradation of the liquid mixture on a 3 litre bioreactor during eleven days decreased COD percentage of 69,68% and and biogas product of 5120 millilitres. Kinetic parameters of rumen microorganism on the liquid mixture resulted that saw rate of product forming on substrate ($Y_{p/s} = 0.14 \text{ ml\% NDF}$), biomass growth rate on substrate ($Y_{x/s} = 0.60 \text{ colony/ml\% NDF}$), specific maximum growth rate ($\mu_m = 0.81/\text{day}$), gas volume at time the substrate fully degraded ($V_f = 5190.60 \text{ ml}$), maximum gas forming rate (was $0.15 \text{ ml\% NDF/day}$), inflection time of gas forming/half time when gas forming was on the lag phase ($l = 0.9 \text{ day}$).

E. Gumbira – Sa'id, M. Rahayuningsih dan A. Karim. 1993-1996. Kajian Penanganan Limbah Hasil Delignifikasi dan Hidrolisis Tandan Kosong Kelapa Sawit (TKKS) menggunakan Kultur Mikrobial Campuran (*Mixed Culture*) Cairan Rumen Sapi. **RUT I**. Di dalam Kumpulan Abstrak Proyek Riset Unggulan Terpadu. Kantor Menteri Negara Riset dan Teknologi. 2000. Jakarta