Analisis perbandingan produksi gas metana dari lumpur biologis dengan ko-substrat sampah makanan menggunakan metode pengukuran gas chromatography dan GB-21 = Analysis of methane production in waste activated sludge with food waste as co substrate using gas chromatography and GB-21 methods

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Abstrak

ABSTRAK
Lumpur biologis merupakan masalah yang timbul setelah proses pengolahan air, tetapi dapat menghasilkan energi jika diolah dengan proses AD. Potensi energi dari suatu substrat dapat diperkirakan dengan biochemical methane potential BMP . Pengukuran BMP dapat dilakukan dengan dua metode, yaitu gas chromatography GC dan GB-21. Tujuan penelitian ini adalah menganalisis potensi produksi gas metana dari substrat lumpur biologis 100 L100 , dan dengan penambahan ko-substrat sampah makanan dengan variasi 25 L75 dan 50 L50 volume, dan menganalisis perbedaan volume gas dari metode pengukuran GC dan GB-21. Parameter yang diiuji yaitu pH, TS, VS, COD, C/N, amonia, temperatur kering dan basah, tekanan udara dan uap air, kelembaban udara serta konsentrasi dan volume gas metana. Pengujian dilakukan selama 35 hari, yaitu dihentikan saat produksi gas metana kumulatif.
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ABSTRAK
Waste activated sludge WAS is a problem that arises after water processing, but it can produce energy if processes by AD process. Energy potential of a substrate can be estimated by biochemical methane potential BMP . BMP measurement can be done by two methods, gas chromatography GC dan GB 21. The research objective was to analyze methane gas production potential from WAS 100 L100 , and with the addition of food waste as co substrate with variation 25 L75 and 50 L50 of the volume, and to analyze the differences between methane gas production of GC and GB 21 methods. The parameter examined are pH, TS, VS, COD, C N, ammonia, dry and wet temperature, air and vapor pressure, air humidity, and methane volume and concentration. The study was conducted for 35 days, stopped when cumulative methane gas production.