

**BIOGAS PRODUCTION FROM FOOD WASTE CO-
DIGESTION WITH COW DUNG**

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ABSTRACT

BIOGAS PRODUCTION FROM FOOD WASTE CO-DIGESTION WITH COW DUNG

Biogas can be characterized as colorless, flammable gas produced via anaerobic digestion of animal, plant, human, industrial and municipal wastes. Anaerobic digestion of food wastes co-digested with cow dung has been carried out in 1 liter digester within 20 days. The food wastes used as feed were fruit wastes, vegetable wastes, cooked rice, bread, milk, noodles, spaghetti, and other leftover food. The total solid, moisture content, and pH of the wastes were examined. The research is conducted to compare biogas production of food wastes co-digestion blend with cow dung and to measure chemical and physical parameters of substrate during biogas production. The food wastes were collected from Kuala Pilah area and cow dung from Beting, Kuala Pilah farm. Temperature of 45°C - 50°C and pH in the range of 6.7 – 7.6 were maintained for healthy system. The study showed that TS% within 6.35% - 11.79% and moisture content between 88.20% - 93.65% was the optimum values to generate maximum biogas production. The highest biogas production from these mixed wastes was 43.42 cm³. The result showed the mixed waste from food wastes and fruit vegetable wastes digested better than the one co-digested with cow dung.