

Biogas production potential from co-digestion of composted faecal sludge mixed with rice husks and sawdust

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Description

The global demand for energy is increasing, with 80% of total energy obtained from fossil fuels rich in greenhouse gases. Biogas is an effective alternative to fossil fuels. Thus, this study aimed at evaluating biogas production potential from co-digestion of composted faecal sludge (FS) mixed with rice husks (RH) and sawdust (SD). FS of 2000g, 3000g was mixed with RH and SD (2mm, 4mm). The ratios for RH and SD were 1: 0, 0: 1, 1: 1, 3: 1, 1: 3; each mixed with FS, composted for 20days followed by biogas production. Quantity and quality of biogas were measured using water and NaOH displacements, respectively. CH₄ content ranged between 74-76%. Digester with 2000g FS and 100g RH (4mm) performed excellently, producing 17.2 L of biogas. Conclusively, RH, SD and FS have potential to produce biogas. However, a comparative study should be done on fresh and composted materials to assess the influence of composting on biogas production.