IJARSCT



International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 3, Issue 2, September 2023

Synthesis of Methane Gas from the Different Type of Domestic Wastes and Animal Dung

Mr. Shubham Upadhyay¹, Mrs. Anamika Maurya², Dr. Anand Kumar Singh³

Assistant Prof.¹, Babu Sunder Singh Institute of Technology and Management, Lucknow UP, India Associate Prof.^{2,3}, Babu Sunder Singh Institute of Technology and Management, Lucknow UP, India

Abstract: Biogas is one of the reliable alternative fuels. Nowadays, it is widely used in all over the world. It is a renewable type of energy. The biogas can be produced by anaerobic digestion of biodegradable elements. Many research works focused on the biogas preparation from the bio wastes. Vegetable wastes, food wastes, kitchen waste, animal waste are some of the bio wastes. Mostly, in urban areas, the cooking has been carried out by the use of biogas. Biogas can be used as the alternative fuel for the following sectors in industries for boilers and power plants, in transports for buses. Water hyacinths are naturally available in ponds and lakes. Since, Plants such as Milkweed are of no use can be used for the extraction of biogas. Food wastes and kitchen waste also a good biogas producer. This paper investigates the possibility of producing biogas from a mixture of water hyacinth and cow dung, milk weed, food waste and analysing the methane concentration. The biogas consists of methane as a major constituents and traces of other gases which includes CO, H₂S, and NH₃. To increase the yield of methane gas cow dung is mixed with water hyacinths.

Keywords: Biogas

REFERENCES

[1]. Kumar, S., Gaikwad, S.A., Shekdar, A.K., Kshirsagar, P.K., Singh, R.N. (2004). Estimation method for national methane emission from solid waste landfills. Atmospheric Environment. 38: 3481–3487

[2]. Peter Wieland," Biogas Production: Current State And Perspectives". Appl Microbial Biotechnol,vol. 85, pp. 849 – 860, 2010.

[3]. Gupta P., Singh S.R., Sachan A., Vidyaarthi A.S., Gupta A. A re-appraisal on intensification of biogas production. Renewable and Sustainable Energy review, 2012; 16(7): 4908-4916

[4]. Ravi P Agrahari and G N Tiwari, "The Production of Biogas Using Kitchen Waste", International journal of Energy Science (IJES) Vol:3, pp. 12-06, 2013.

[5]. Karve .A.D. (2007), Compact biogas plant, a low cost digester for biogas from waste starch.

[6] Shalini singh, sushilkumar, M.C. Jain, Dinesh kumar (2000), the increased biogas production using microbial stimulants. 0 50 100 150 200 250 300 0 5 10 15 20 25 Gas Production in ml Day Gas Production ISSN No.: 2454- 2024 (online) International Journal of Technical Research & Science DOI Number: 10.30780/IJTRS.V3.I5.2018.001 pg. 171 www.ijtrs.com www.ijtrs.org Paper Id: IJTRS-V3-I5-001 Volume 3 Issue V, June 2018 @2017, IJTRS All Right Reserved

[7] Karve of Pune A.D (2006). Compact biogas plant compact low-cost digester from waste starch. ____

[8] Karve .A.D. (2007), Compact biogas plant, a low cost digester for biogas from waste starch. http://www.artiindia.org.

[9] G. Durai and M.Rajasimman. (2011). Kinetic studies on biodegradation of wastewater in a sequential batch bioreactor: (3):19-26: 2011

[10] B. Velmurugan and R. Alwar Ramanujam "Anaerobic Digestion of Vegetable Wastes for Biogas Production in a Fed-Batch Reactor" Int. J. Emerg. Sci., 1(3), 478-486, September 2011 ISSN: 2222-4254

