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Chemical Pretreatment on Flower Waste to Enhance the Production of Biogas through Anaerobic Digestion

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Abstract: *Flowers are extensively used in many occasions in our country irrespective of auspicious or inauspicious functions. It is also adding to another biodegradable waste. But the improper disposal is causing pollution to environment. The same if used effectively will be converted into bioenergy that can find many applications further. Survey was conducted in Kengeri area for the number of temples, party halls, and market areas for producing flower waste. The amount of flower waste collected is estimated. The specific species of flower was taken for experimental study, knowing the species of flower waste it was tested for various parameters such as pH, temperature, moisture content, alkalinity, chloride, carbon and nitrogen ratio, BOD and COD. After obtaining the results for above parameters, sample was taken for pretreatment of physical, chemical Pretreatment and further subjecting to anaerobic decomposition. The investigation was undertaken to find out the biogas production potential of flower waste coming out from temples by building. Laboratory scale digesters of22L capacity and fed with flower waste with physical pretreatment. The waste was digested for retention period of 35 day under batch fed system at total solid concentration of 8 %(w/v) and constant temperature of 32±2°C. The optimum quantity of flower waste inoculums and water was used. The chemical pretreatment with NaOH (0.3N) as alkaline and HCL (0.2) as acid were given and after grinding it was added in the digestion process to enhance biogas production. The pressure of biogas is measured and the concentration of methane gas is determined by the gas chromatographer.*

Keywords: Anaerobic decomposition, BOD, COD.

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