Disused Tires: An Alternative To Produce Biogas

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"Disused tires: an alternative to produce biogas" is to give a beneficial use to used tires and cow excrement, two major polluters, therefore decrease the accumulation of them and thus reduce their environmental impact (Thomas and Gupta,2016; Pinos-Rodríguez, 2012) This research seeks to control these pollutants by taking a tire and converting it into a biodigester whose substrate is cow excrement. What is the feasibility of using a used tire as a biodigester to generate biogas from cow excrement? If used tires are used as biodigesters, then biogas will be produced from cow excrement. For this purpose, 9kg of the cow excrement were weighed and placed inside a tire with an aluminium rim. During bio digestion test: Gas production was observed from the third day with rapid results. Daily measurements of PSI were taken, and a linear increase in gas production was observed. Due to this increase, the biodigester began to be emptied quarterly until it reached a reading of 0 PSI. A total of 304 psi of biogas was produced over a 10-month period. During combustion test: An adapted gas line was connected between the tire and a Bunsen burner, and a flame was ignited. The observed flame was stable and blue, characteristics of a complete combustion. In the 10 months of research the biodigester has not stopped producing gas, showing that it is a functional and durable anaerobic system. The results proofed that is a viable way to produce gas while helping the environment. The hypothesis was accepted since it was possible to make a functional biodigester using tires and produce biogas from cow excrement. Developing and commercializing this alternative is part of the future projections.

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