

BIO GAS



INTRODUCTION

TITLE OF THE PROJECT

BIOGAS

PROJECT CATEGORY

SENIOR

NAME OF THE PARTICIPANT

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NAME OF THE MENTOR:

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NAME OF THE SCHOOL:

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OBJECTIVE OF THE PROJECT

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Deriving energy from household waste.

MATERIALS REQUIRED:

Empty PVC can 10 ltrs capacity: 1 No. (to be used as Digester Tank)

64 mm dia pvc pipe: about 40 cm long (to be used for feeding waste material)

32 mm dia pvc pipe: about 50 cm long (fixed inside gas holder tank as a guide pipe)

25 mm dia pvc pipe: about 75 cm long (fixed inside the digester tank as a guide pipe)

32 mm dia pvc pipe: about 25 cm long (fixed on digester tank to act as outlet for digested slurry)

M-seal or any water-proof adhesive.

CHRONOLOGICAL PROGRESS:

27TH NOVEMBER – Project started.

4TH DECEMBER – Guided by YES.

Till 20 DECEMBER – Food Wastages added.

23RD DECEMBER - No gas formed(Organic matter underwent bio degradation).

4TH JANUARY TO 18TH JANUARY - No gas found.

21ST JANUARY – New plant was made.

25TH JANUARY – Formation of gas found.

5TH FEBRUARY – Leakage of gas in the planet was found.

6TH FEBRUARY – Another model of plant with above material was constructed.

11TH FEBRUARY – Formation of gas was identified.

RESULT

OBSERVATIONS:

- Cow dung mixed with water has been fed into system.
- Food waste, decomposable organic material and kitchen waste will be diluted with water are fed in to the system(40% of cowdung 60 % of food waste.
- The gas holder will rise along the guide pipes based on the amount of gas produced. i.e oxygen, methane, carbon-di-oxide and other gases.
- These gases can be released to the atmosphere by opening the ball valve atleast three / four times.
The formation of the gas may be observed by lighting a candle .
This was observed on 11^h of february

RESULT

The biogas has produced from degradable substance.
This was observed on 11^h of January.

CONCLUSION

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- ❖ Biogas is produced by anaerobic digestion with anaerobic bacteria or fermentation of biodegradable materials such as manure, sewage, municipal waste, green waste, plant material, and crops. It is primarily methane (CH_4) and carbon dioxide (CO_2) and may have small amounts of hydrogen sulphide (H_2S), moisture and siloxanes.
- ❖ The gases methane, hydrogen, and carbon monoxide (CO) can be combusted or oxidized with oxygen. This energy release allows biogas to be used as a fuel; it can be used for any heating purpose, such as cooking. It can also be used in a gas engine to convert the energy in the gas into electricity and heat.



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L.PRADEEP KUMAR

