Integrated use of biogas slurry and chemical fertilizers to improve growth and yield of okra

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What is Biogas Slurry?

- Anaerobically digested organic material released as byproduct from the biogas plant after production of combustible methane gas
- Biogas Slurry is a potential source of different nutrients
- It contains appreciable amounts of organic mater (20 to 30%)

Need to adopt Bio slurry?

- Agriculture- feed about 70% of population
- To meet huge population food requirement, use of chemical fertilizer cause deterioration of soil
- Era of green revolution after 1960s
- Birth of extensive cropping system
- Degradation of soil due to extensive farming
- Increase in barren soils

- Costly chemical.
- Dire need of sustainable agriculture
- Focus on the use of organic fertilizer
- On the other side residues are available in large amounts and their disposal is a major concern for the environment

- It improve the soil fertility .
- Bioslurry organic fertilizer is environment friendly

Objective

- Efficient utilization of waste material (BGS) for sustainable agriculture.
- Improvement of the physical structure of the soil.
- Increase soil fertility.
- Increase water-holding capacity of the soil.
- Enhance activity of the micro-organisms in the soil.
- To reduce poverty by sustainable agriculture.

Methodology

- Kind of experiment: Pot Experiment
- Crop: Okra
- No of treatments 13
- No of replication 4
- Experimental design CRD

Treatments Detail

Treatment	description
T1	Recommended NPK (control)
T2	Fresh BGS@400kg ha + recommended NPK
T3	Fresh BGS @ 800kg ha +recommended NPK
T4	Fresh 100% N from BGS
T5	F resh75% N from BGS+25% N fro fertilizer
T6	Fresh 50% N from BGS+50% N from fertilizer
T7	Fresh 25% N from BGS+75% N from fertilizer
T8	Dry BGS @ 400kg ha +recommended NPK
T9	Dry BGS@800kg ha + recommended NPK
T10	Dry 100% N from BGS
T11	Dry 75% N from BGS+25% N fro fertilizer
T12	Dry 50% N from BGS+50% N from fertilizer
T13	Dry 25% N from BGS+75% N from fertilizer

- **Plant parameters:**
  - Plant height
  - Root length
  - No. of fruit
  - No. of flower
  - No. of leaves
  - Total yield of fruit per pot
  - No. of branches
  - Chlorophyll content
  - NPK contents in grain and straw

SUMMARY

- Biogas slurry may be considered as a good source of organic fertilizer for sustainable agriculture


THANKS!