ADVANTAGES

1. Allows the treatment of human and animals feces.
2. Reduce the population of biting insects and parasites.
3. Allows the storage of feces and prevents the bad odors generated during their decomposition.
4. The effluents produced by the biodigestor (biol and biosol), increases to the fertility of the soil and increases agricultural yields.
5. Biogas can replace petroleum and the firewood, reducing costs and reducing deforestation.
6. The effluents of the biodigestor can be used as foliar organic fertilizer or in fish ponds and can be decontaminated with aquatic plants, which can be used to feed pigs or other animals.

CONCLUSIONS

The biodigestor is a system that allows you to treat residual waters and feces, offering ecological and economical advantages. This system is readily accessible and of low cost and is a sustainable environmental solution.

SUMMARY

The biodigestor is a technology that takes advantage of some the resources that man rejects from his farm, such as human and domestic animals (bovine, buffalos, equines, pigs, etc.) feces, turning them into methane gas, which is a source of fuel and organic fertilizer.

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GUIDE FOR THE INSTALLATION OF A LOW COST POLYETHYLENE BIODIGESTOR

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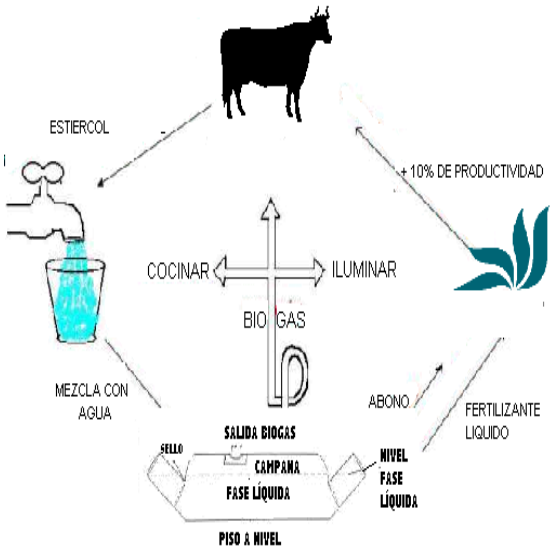

Objective

To offer information on the dimensions of the pit, list of materials and accessories needed for the installation of a low cost biodigestor and its management, for the production of biogas and organic fertilizer from human and animal feces.

MATERIALS

- 82 ft of transparent polyethylene tube caliber 8mm, of 19.6 ft in circumference.
- 8 plastic bottomless circular buckets, 20 liters capacity, or 2 concrete culverts 12 inches in diameter.
- 2 meters of flexible transparent plastic hose 1¼ inches in diameter.
- 1 male PVC adapter 1'
- 1 female PVC adapter 1'
- 1 PVC tee 1' in diameter.
- 2 90 degrees PVC elbows 1 inch of diameter.
- 1 1 inch smooth PVC cork
- 3 ft of PVC gray pipe 1 inch in diameter.
- 1 bottle of PVC glue.
- 2 washers in acrylic, wood, fiber glass, aluminum or firm synthetic material 8 ins in diameter with a central hole of 1 inch.
- 1 transparent bottle or plastic bottle, without cover, 0.5 to 1.3 gals capacity.
- 2 circular used tire seals 9.9 ins in diameter.
- 10 used bicycle tire tubes, 2 ins wide and 2 ms long
- 8 empty polypropylene bags (fertilizer or feed).
- One pot washer

VOLUME

TOTAL: 6,076 gals
Liquid Phase: 4,491 gals
Deposit for biogas: 1,585 gals

PIT
5,6 ft. at the top

4,9 ft. wide at the base
4,9 ft. deep
26.2 ft in length

Base of pit with no decline

DAILY FEEDING

154 lbs of fresh manure (four plastic buckets), dissolved in 92.5 gals water without chlorine = 111 gals total

METHODOLOGY

1. Dig the pit in the earth.
2. Prepare polyethylene bag, leaving it double.
3. Remove the bottoms of the plastic buckets.
4. Prepare two plastic tubes, formed by fitting together four plastic buckets. The ends of each plastic tube (cement culvert) is covered with the fertilizer bags, tied with the bicycle tubes
5. A hole is made in the double bags to fit the exit valves for the gas
6. The exit valve for the biogas is assembled and placed, fitting to the male and female adapters, both tire seals and washers are used.
7. The double polyethylene bags are placed in the pit.
8. Both ends of the bags are fitted into the plastic tubes or culverts and are tied and sealed in place, using the bicycle tubes.
9. The safety valve is assembled by gluing the nipples, elbows and tee together and placing them inside the plastic bottle of the safety valve.
10. The plastic hose is inserted in both ends that unite the exit and security valves.
11. A used garden hose is put inside the bag with the other end attached to the muffler of fuel engine.
12. To avoid wrinkles. The bag is inflated with air or with the smoke of an engine.
13. The bag is partially filled with water and feces to begin the process.

MAINTENANCE

To keep the biodigestor working, a daily dose of the following should be added: one part of fresh feces, five to ten parts of water.