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(3)

(2)

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.³ 32

³ /³ 0.63

³ 18.81

. / 451440

.%66.3

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30621 . .

(3)

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(1)

Design, Install and Apply the Biogas Unit At the Faculty of Agriculture (Kharabo) Farm Damascus University

A. M. Al-Amin⁽¹⁾, F. Al-Shawa⁽²⁾ and S. Al-Gadban⁽³⁾

ABSTRACT

A reactor was designed to produce and rise the productivity of biogas during anaerobic treatment of cattle dung.

It had a size of 32 cubic meters, constructed and installed. The material used was a sheet of metal, the unit was put over the land.

The results indicated that the biogas production rate was 0.63 m³/m³, while the daily average biogas production was 18.81 m³. The results also revealed that the average percentage of methane content in biogas was 66.3%. The average calorific value of produced gas was 451440 KJ/day.

The results also showed that, The digested sludge can be used as a good fertilizer.

Key Words: Reactor-Piogas, Manure, Fertilizer, Gaz tank, Dially production, pH degree, Weast, Heatamaunt Methane.

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.(1986)

Kuppuswamy Jeyabal

.(2001)

(1997)

.(1988) Awady *et al.*,

.(1991)

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.2004

1

³ 32

360

300

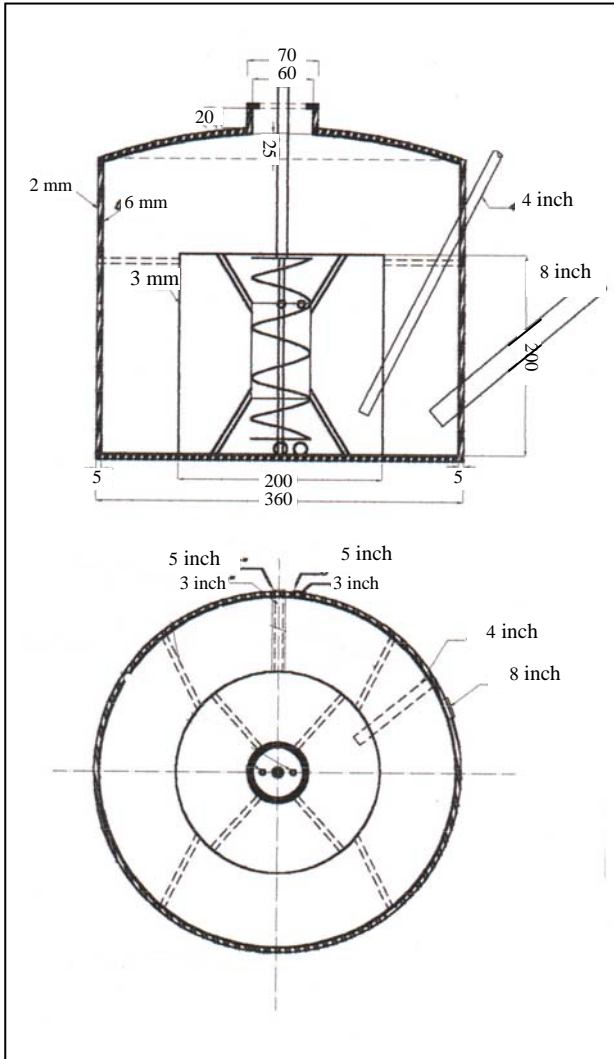
5

45

(1)

(1)

5 ()



(1)



(1)

35
 . 4/3 500
 57 2 2
 5 35 20

(Starter) 3
 (PH = 7.6)

: (1981) Lo *et al.*, %8

Y = X [(TS_{man} - TS_{dig}) / TS_{dig}]

.% :X () :Y :
 :TS_{dig} .% :TS_{man}
 .(pH) 4
 5
 : (1986) Sasse Hohlfeld

$$Q_p = C_p \cdot m (T_1 - T_0)$$

.KJ/kg.k

:Cp .KJ
.k

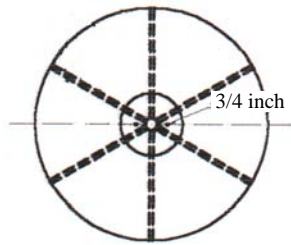
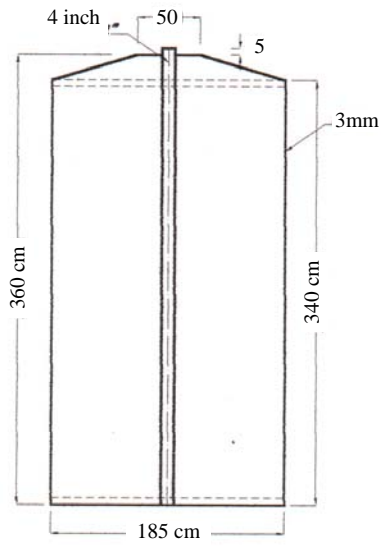
:T₁ - T₀ .kg

:Qp :
:M

.(1986) Sasse Hohlofeld 4.19 KJ/kg.k

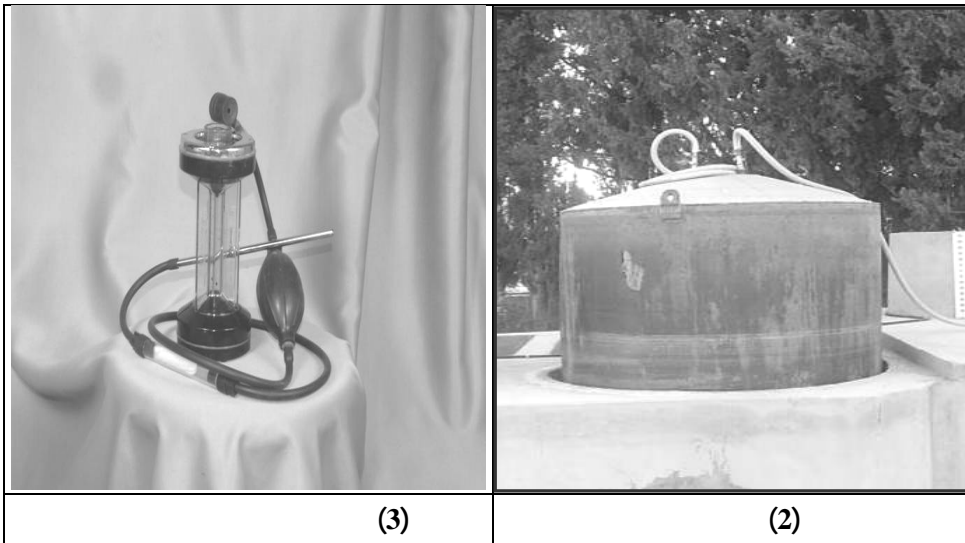
6

.(2) (2)



(2)

(3) (CO2 testoryt)



(6 5 4)

30

3 39

(4)

(1997) Seufert El-Hadidi

(5)

3 564.3

(1986) Huzayyin Sayed-Ahmed

() 30

3 18.81

(6)

(1985) Chen *et al.*,

(6)

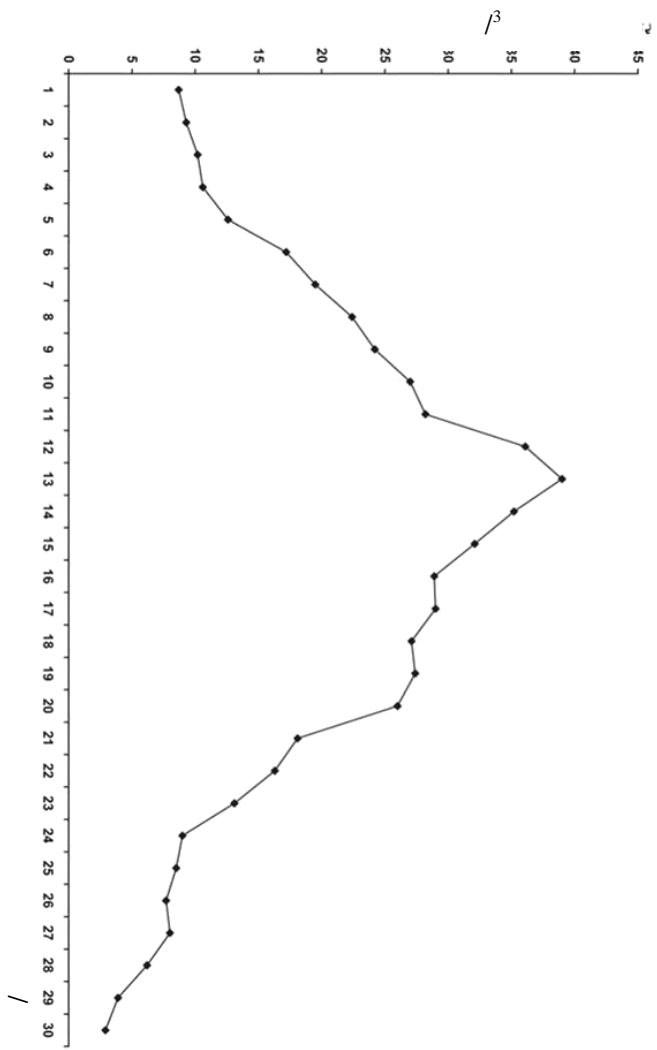
%54

(1980) Neelakantan

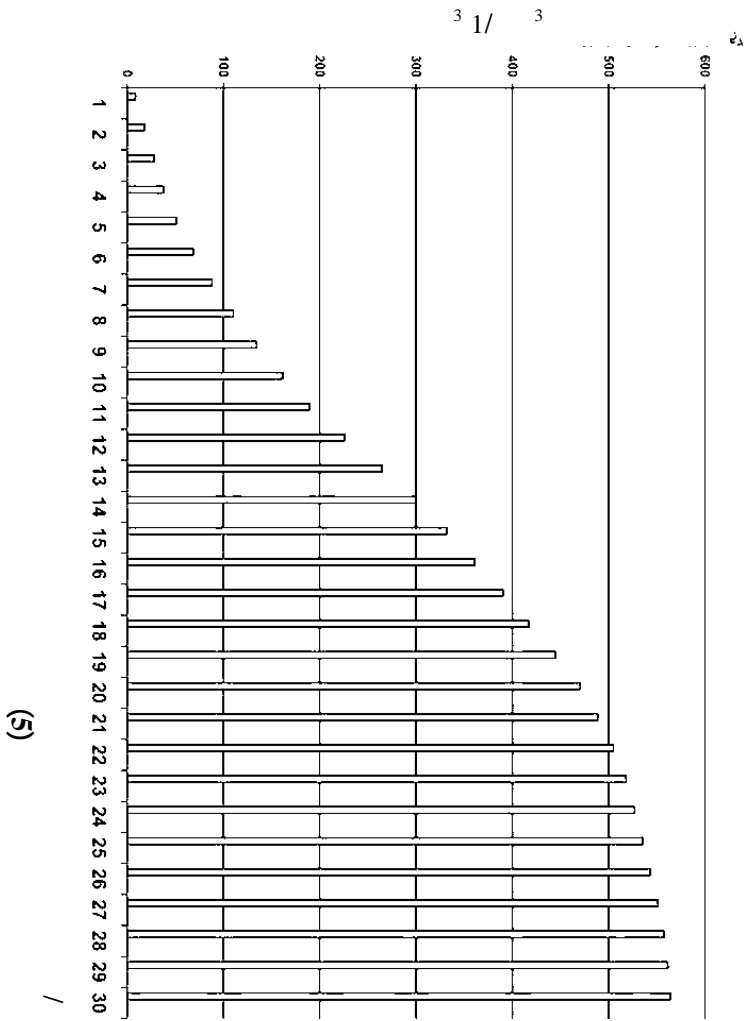
%66.3

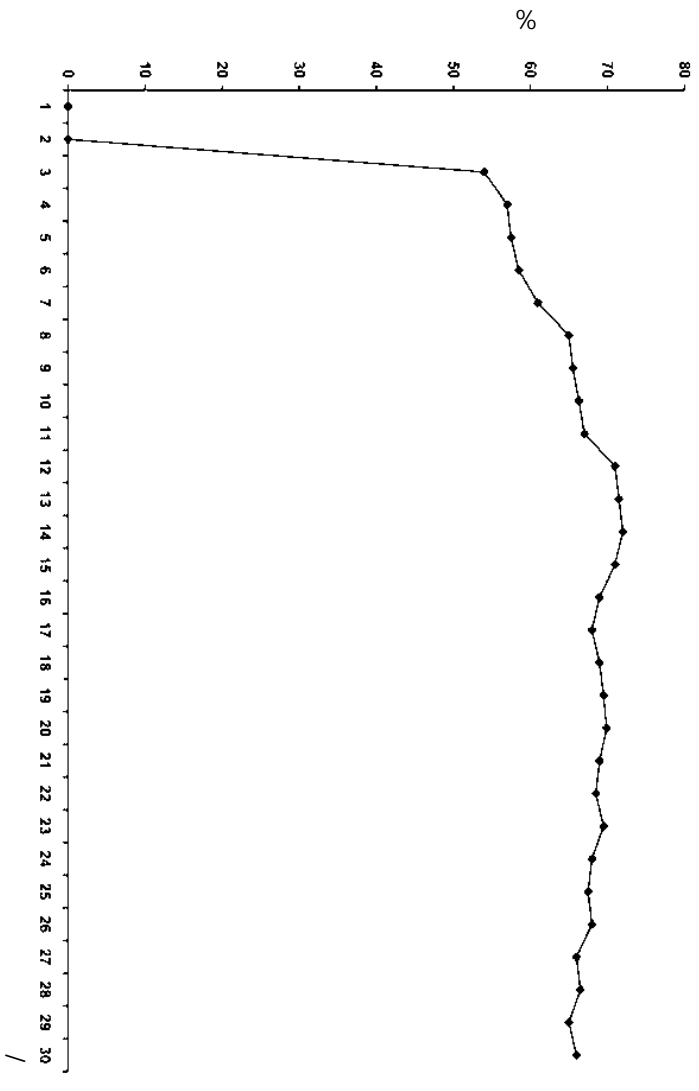
%72

%.65



(4)





(6)

PH.

3016800
13543200

.(1988) Awady *et al.*,

14.9 ()
.8.2
. (2)
. (2001)

(1)
(PH)
(1993) Badawi El-Shimi

(1)

2.52	1.26	1.49	

(2)

1850	192	129	17	ppm

13543200

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- - - .(2001) .
- - - .(1986) .
- .46 -
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