



**Study the Hygienic Level of Veterinary Medicine
College Wells Water- University of Baghdad.**

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ABSTRACT

This study was conducted to find out the hygienic level of 12 wells water carried out in College of Vet. Med . – University of Baghdad and its quality, suitability for human and animal consumption.

To achieve our objectives 180 well water samples were collected from February to May 2011 (15 samples each), in order to estimate the Most Probable Number (MPN) of Coliforms, pH and Temperature.

Three different periods were selected 15, 30, and 60 minutes after allowing the water to run from the wells before sampling to minimize outside contamination (i-e five samples for each well for each period).

The results showed significant differences ($p<0.05$) for Coliform counts values between the periods of collection, the highest values of coliform counts were recorded during the 60 minutes of period and the lowest values of coliform counts were recorded during the 15 minutes of run, the first values were much higher than the recommended hygienic standards from the World Health Organization (WHO) and Iraqi waters standards.

Electric water pump was used to get the water, the results showed that the highest coliform counts whenever the pumping extend for long time and this is related to the mixing between wells water and waste water, also the nearness of wells to the animal farm and grazing areas, where off to expose the wells water to contamination. The pH and temperature values did not record any significant differences, the were within the recommended standards, according to this, it is recommended not to use the water for human and animal consumption after 15

minutes period, also don't consummate they water after long period of run, therefore it could be conclude from this study that the wells water is contaminated by coliform bacteria that affected the quality and suitability to animal and human consumption and that affected the veterinary public health.

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(Aquifers)

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.(15 8 6 4)

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16-13

(27 26)

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(31 30 1) (

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Vibrio

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E.coli O157:H7 Salmonella typhi cholera

Rota Virus Norwalk Virus HepatitisA

Shigella

Giardialamblia Cryptosporidium parvum

(35 12 5)

Total coliform

Faecal coliform

8)

(10 9

:

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12

180

100

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60 30 15

2011

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.2
.3
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.pH315\set
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Most (MPN)
(30 19 12 10) Probable Number
:
:
Single Double Strength
Kovacs Pepton Water Strength
Reagent
Eosin Methylene Blue Agar (EMB)
:
MPN
10) 15 : .1
10 5
5 1
10
0.1
48-24
37
48
(19)
. 100

Loop : / .2

(10)

24 2.0 ± 44.5

0.1

.3 :

(EMB)

48-24 37
Coli type

Citro bacter *E.coli*
(27 20 11)

: :

Correlation Coefficient and

Linear Regression

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(.29)

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: 15
1 (1)

(p<0.05)

100 555

()

(28 18)

Fecal

Coliform group

Coliform

(

15)

($p > 0.05$)

6

10

7.60

7.11

(30 6) 8.5 – 6.5

($P > 0.05$)

26.0- 25.2

(14)

30

(1):

15

()				100/		
±0.07	25.4	±0.06	7.13	±94.3	555	1
±0.05	25.2	±0.02	7.12	±15.0	365	2
±0.08	25.5	±0.01	7.17	±18.3	380	3
±0.10	25.4	±0.04	7.30	±39.0	405	4
±0.03	25.3	±0.02	7.13	±15.0	365	5
±0.06	25.3	±0.01	7.11	±15.0	356	6
±0.09	25.3	±0.16	7.49	±18.3	395	7
±0.09	25.3	±0.08	7.28	±39.0	405	8
±0.08	25.4	±0.08	7.20	±45.0	445	9
±0.22	26.0	±0.09	7.60	±39.0	405	10
±0.20	25.8	±0.10	7.50	±39.0	405	11
±0.23	26.0	±0.11	7.50	±45.0	445	12
	25.4		7.30		410.5	

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30

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(2)

1

(p<0.05)

1600 -900

100 1460

760							100	
900-550		7	6	5	4	3	2	100
(P>0.05)								100
								7.66 - 7.37
.2		7.37					8	7.66
								(p>0.05)
								26.0-25.2
								(15 8 7)

:(2)

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()				100/		
±0.02	25.9	±0.03	7.55	±140	1460	1
±0.08	25.6	±0.02	7.37	±85.7	760	2
±0.06	26.0	±0.04	7.61	±85.7	760	3
±0.06	25.8	±0.02	7.49	±85.7	760	4
±0.07	25.7	±0.03	7.54	±85.7	760	5
±0.03	25.8	±0.05	7.45	±85.7	760	6
±0.05	25.6	±0.03	7.47	±85.7	760	7
±0.05	25.9	±0.02	7.66	±202.0	1250	8
±0.11	26.0	±0.03	7.63	±171.4	1180	9
±0.02	25.9	±0.15	7.47	±171.4	1180	10
±0.21	26.0	±0.10	7.59	±171.4	1180	11
±0.19	25.9	±0.08	7.56	±171.4	1180	12
25.8		7.53		999.1		

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60

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1 (3)

100 1800

(p<0.05)

7.80-7.36

($p > 0.05$)

26.5-25.6

(9 19 20).

(3):

60

()				100/		
±0.04	26.5	±0.06	7.79	± 0.0	1800	1
±0.06	26.1	±0.01	7.61	±48.9	1720	2
±0.11	26.3	±0.01	7.76	±40.0	1760	3
±0.02	26.5	±0.03	7.80	±40.0	1760	4
±0.13	26.3	±0.02	7.75	±48.9	1720	5
±0.09	26.4	±0.02	7.77	±48.9	1720	6
±0.12	26.1	±0.03	7.72	±48.9	1720	7
±0.05	26.4	±0.01	7.76	±40.0	1760	8
±0.15	26.1	±0.01	7.64	±40.0	1760	9
±0.23	26.1	±0.07	7.62	±48.9	1720	10
±0.27	25.9	±0.14	7.53	±48.9	1720	11
±0.15	25.6	±0.10	7.36	±48.9	1720	12
26.1		7.67		1740		

60 30 15

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(4)

60

30 15

30 15

(30 24 1)

48-24

(β -galactosidase)

(31 2)

E. coli

Thermo tolerant Coliform

E. coli

Bacteria

Klebsiella Enterobacter Citrobater

45-44

Fecal Coliforms

100

E. coli

10

(34 17)

16-13

(26 7)

(35 27).

(30)

(20 19)

60 30 15

26.1 25.8 25.4

(14 10 8)

(19 3)

25-10

30

(33 32)

60 30 15

7.67 7.53 7.30

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8.5-6.5

(30 4)

(2)

(H⁺)

(OH⁻)

60 30 15

:(4)

		()		100/		
±0.03	7.30	±0.06	25.4	±35.15	410.50	15
±0.04	7.53	±0.10	25.8	±128.48	999.16	30
±0.03	7.67	±0.11	26.1	±41.85	1740	60

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(4)

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(25 23)

(8 7)

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- .3 .(2011) .
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- .5 .(2004) .
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