

Legionella pneumophila

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UV

Microwaves (light)

Legionella pneumophila

The Effect of Some Physical and Chemical Inhibitors on Growth of *Legionella pneumophila*

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ABSTRACT

This study involved the effect of some physical inhibitors such as heat, ultraviolet light and microwave radiation as well as some chemical inhibitors such as ethyl alcohol, propanol alcohol, gluteraldehyde and formalin at different concentrations on inhibiting the bacterial growth of *Legionella pneumophila* which isolated from different water sources, cooling towers, waterbath showers water and sewage water and identified by using the primary and selective media. Then, the results showed that the bacteria can't grow in those concentrations of inhibitors which were subjected to it.

United Nations Environment Program (UNEP)

% 30

% 80

1999

(2002)

(1990)

WHO

Legionella pneumophila

(1999)

Springion

Legionella pneumophila

Legionella pneumophila

Fisher-Hoch

(Broadbent, 1996)

(1983)

Best

(1981)

30

° 70

(1994)

Toblan

° 70

(2003)

AWT

% 90

° 60

% 100

(1)

% 90

° 50

° 70

(1999)

Springston

20

24

% 1

% 0.121

(1980)

Joklik

% 20

% 70

UV

UV

(Marting et al., 1989)

DNA

(1979)

Ellner

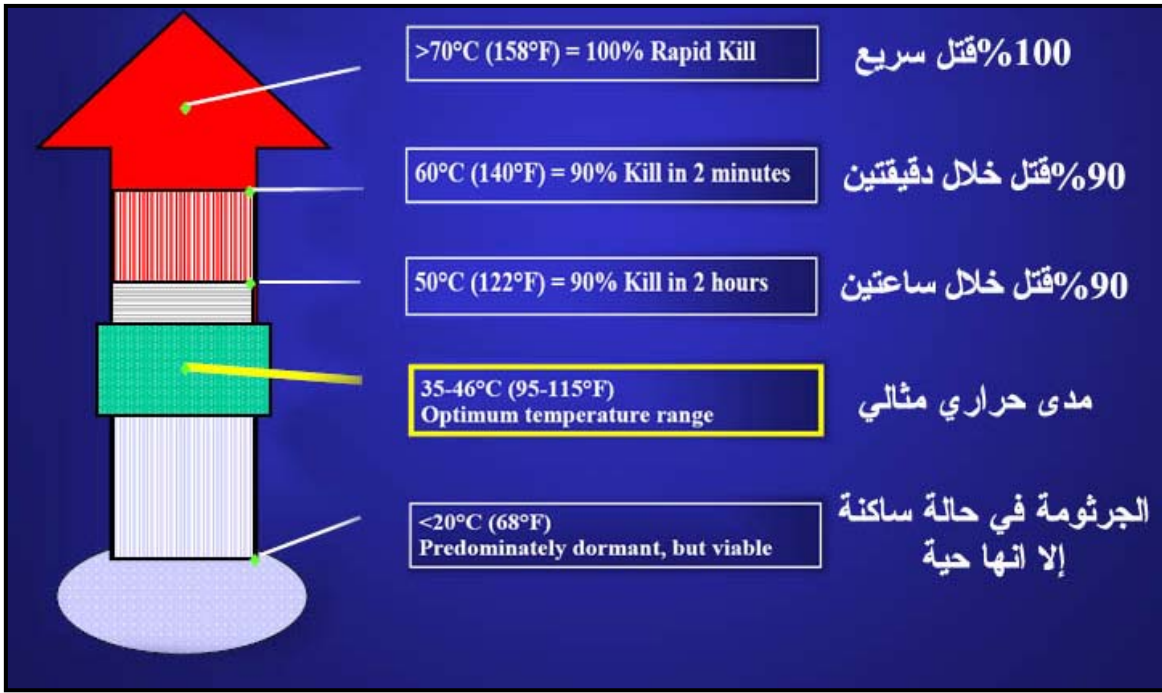
Antopol

103

10

254

UV



L. pneumophila

: 1

(AWT, 2003)

2004

(150)

:

2004

Cooling Towers

(70) •

3-2

()

³ 250

.(WHO, 1971)

Cool Box

Bath Showers

(40) •

Sewage Water

(40) •

Heat Treatment
 (Bopp et al., 1981) 15 ° 55
 3 25 (0.2 M) 3 3.9 15
 3 4.5 3 0.5 (2.2 PH) (0.2 M)
 .(Forbes et al., 2002) 3 0.1 15

Feeley BCYE

Gorman Agar (FG)
 L- Cysteine HCl

Growth Factors

Yeast Extract Broth

3 4-3 °37
 30 ° 55
 5 ° 70
 4-3 ° 37 BCYE

:UV

BCYE
 10 4-3 ° 37
 L-shape (pH7)

4-3 ° 37 BCYE 10⁻⁵ 10⁻⁴ 10⁻³
 5 10 254 UV

.(Gilpint et al., 1985)

...

:() .

()

SARGENT-WELCH SCIENTIFIC (U.S.A)

ED-SEC MICROWAVE

25

(8-12 GHz) X-

30

.(2004)

BCYE

:

Yeast Extract Broth

4-3 ° 37

: 1

% 20

% 70

% 0.125

% 1

BCYE

.(Joklik et al., 1980)

4-3 ° 37

21

120

L. pneumophila

.% 52

% 80

.% 40

4-3 ° 37

BCYE

° 70

30 ° 55

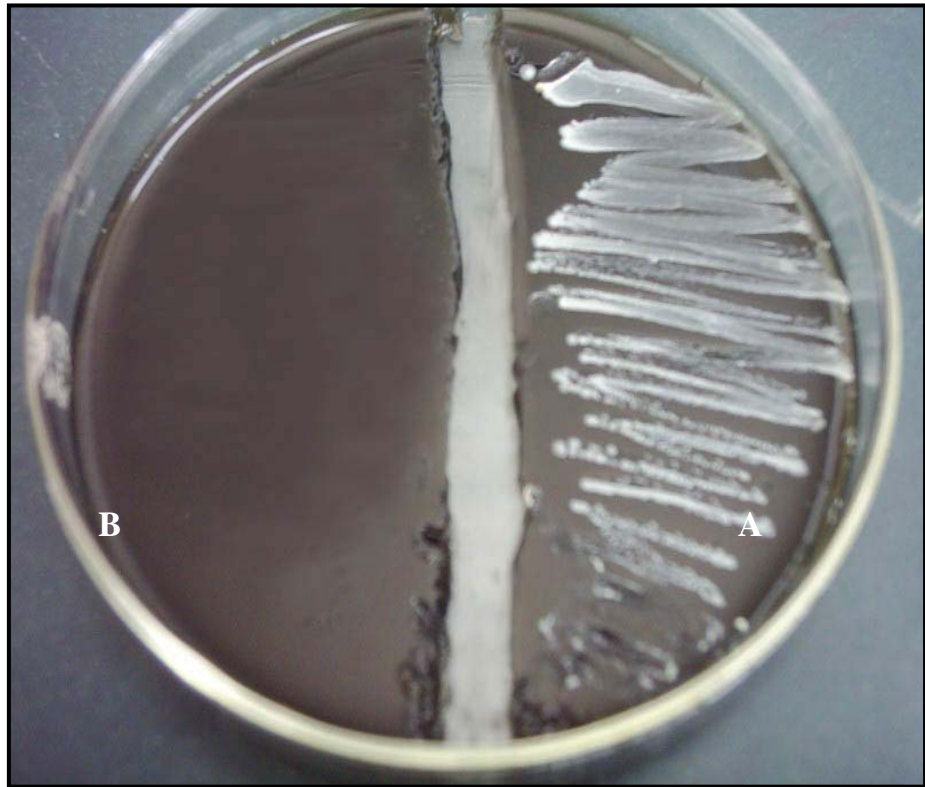
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5

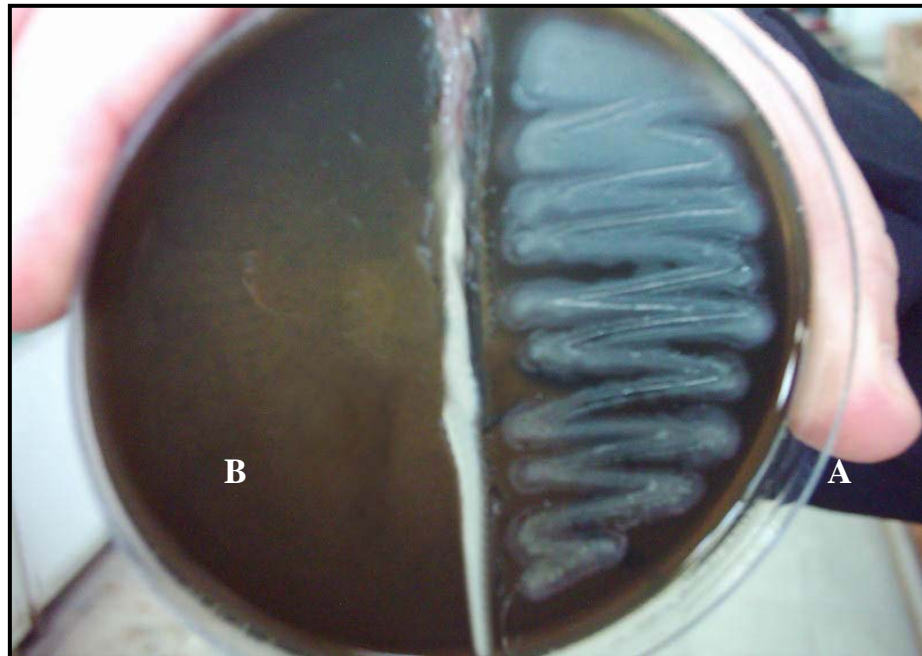
Winn

(2 1)

(1995)



. BCYE *L. pneumophila* : A 1
. 30 55 : B



. BCYE *L. pneumophila* : A 2
. 5 70 : B

...

BCYE

UV

BCYE

(1985)

Gilpint

254

25

30

° 37

BCYE

4-3

L. pneumophila

Staph. aureus *E. coli*

.(2001)

(Control)

° 37

4-3

BCYE

%100

(1980)

Joklik

.2004

Staphylococcus aureus *Escherichia coli*

.4

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