NF VALIDATION

AFNOR CERTIFICATION VALIDATION STUDY OF THE METHOD

Legionella MWY

Attestation number: BIO 12/34-06/12

for the enumeration of *Legionella*

Protocol for cooling towers waters, sanitary hot waters and recreational waters

SUMMARY REPORT – JULY 2016 – V1

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Appendices

1. Introduction

1.1. Validation repositories and history

The aim of this validation study is to evaluate the performance of the alternative method Legionella MWY against the reference methods ISO 11731 (1998) and NF T90-431 (2014) according to the Validation protocol for an alternative commercial method as compared with a reference method (rev.2 – 05/2013). It consists in a comparative study, an extension study and an interlaboratory study. All categories are compared to the standard ISO 11731 (1998), only some categories are compared to the standard NF T90-431 (2014). Details are in the part 1.4. Scope of application.

The *Legionella* MWY method has been initially validated in June 2012 for cooling tower waters and sanitary hot waters. An extension of the method has been performed in May 2013 for recreational waters. For all these studies, the method *Legionella* MWY was compared to the standard NF T90-431 (2003) and its amendment A1 (2006) and to the standard ISO 11731 (1998). The studies were performed according to the AFNOR Certification referential (rev. 1 – 05/2010).

The method has been renewed in June 2016 according to the AFNOR Certification referential (rev. 2 – 05/2013).

1.2. Alternative method

1.2.1. Principle of the alternative method

Legionella MWY agar is intended for the enumeration of *Legionella*. This selective medium allows isolating the most *Legionella* species, including those responsible for human infections: *Legionella pneumophila*, the species the most frequently involved (Pontiac fever) but also other *Legionella* species such as *L. anisa*.

The principle of the method is as follows: activated carbon can adsorb toxic elements present in the yeast extract and thus promotes the growth of *Legionella*. The ACES buffer stabilizes the pH of the medium at pH 6.9 corresponding to the optimum growth. Growth of Gram-positive bacteria, certain Gram-negative bacteria, yeasts and molds is inhibited by the presence of several antibiotics.

1.2.2. Protocol of the alternative method

The protocol of the alternative method consists in a direct spreading onto the *Legionella* MWY agar media and in a concentration of the water sample followed by an inoculation onto the *Legionella* MWY agar media. Petri dishes are then incubated for at least 5 days at 36°C and up to 10 days. Typical colonies are then enumerated and confirmed.

The protocol tested in the study is presented in appendix 1.

1.3. Reference method(*)

The international standard ISO 11731 (1998): "Detection and enumeration of *Legionella*", and the French standard NF T90-431 (2014): "Detection and enumeration of *Legionella* spp and *Legionella pneumophila*" are used as the reference method.

Note: the initial validation was performed according to the standard NF T90-431 (2003) and NF T90-431/A1 (2006): "Detection and enumeration of *Legionella* spp and *Legionella pneumophila*". This standard has been updated in November 2014. The protocol for clean waters was modified in this new version. That's why sanitary hot waters are not compared anymore regarding the standard NF T90-431 (2014), but only regarding the standard ISO 11731 (1998).

The protocol tested in the study is presented in appendix 2.

1.4. Scope of application

The scope includes cooling towers waters, sanitary hot waters and recreational waters.

The method *Legionella* MWY was compared to:

- the standard ISO 11731 (1998) for sanitary hot waters and clean recreational waters,
- the standards ISO 11731 (1998) and NF T90-431 (2014) for cooling towers waters and dirty recreational waters.

2. Comparative study and extension study

The following characteristics were studied during the comparative study and the extension study:

- Relative accuracy,
- Linearity of the alternative method,
- Selectivity of the alternative method,
- Limit of detection and limit of quantification of the alternative method,
- Practicability of the alternative method.

For a better presentation of the data, results of the initial validation and results of the extension are grouped in this renewal report.

2.1. Relative accuracy

Three categories of waters were tested in duplicate with reference method and alternative method: cooling towers waters, sanitary hot waters and recreational waters.

Different types of analyzed samples are summarized in table 1.

Water categories and types	Number of samples analysed	Number of samples used
Cooling towers waters	35	20
Sanitary hot waters	29	20
Recreational waters	27	22
- swimming pool and spa waters	*9*	*9*
- thermal waters	*11*	*8*
- bathing waters	*7*	*5*
Total	**91**	**62**

Table 1: Number and nature of samples analyzed

Globally, 91 samples were analyzed and 62 results were used.

2.1.1. Artificial contamination of samples

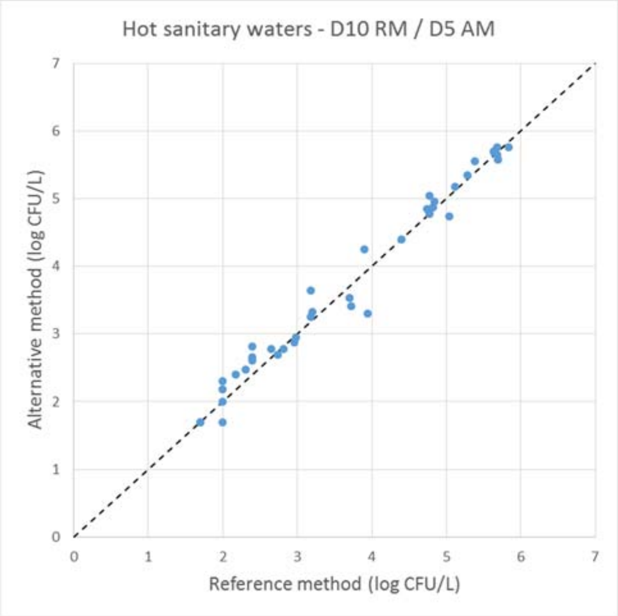
Six naturally contaminated samples were analyzed. Other samples were artificially contaminated, so 97% of samples enumerated are the results of artificial spikings. The contamination levels used cover the entire measurement range of the alternative method.
For spikings, several strains were stressed using different treatments and the stress intensity was evaluated (logarithmic difference between enumeration on BCYE with cysteine agar plates and GVPC agar plates, cf. appendix 3).

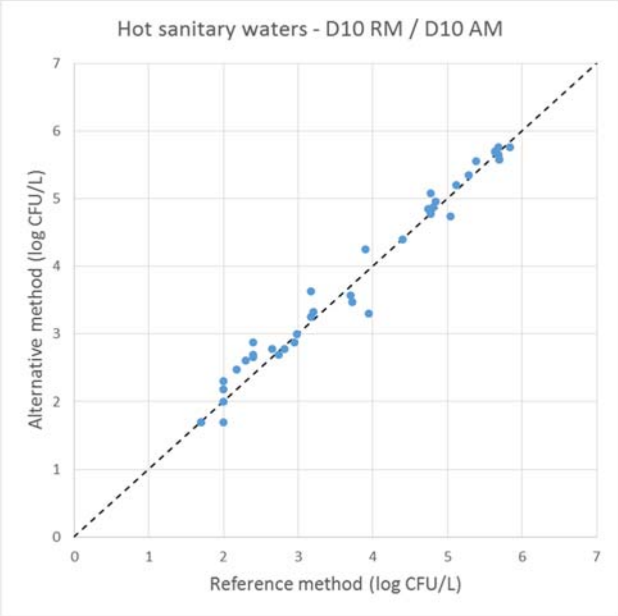
Six naturally contaminated samples were analyzed.

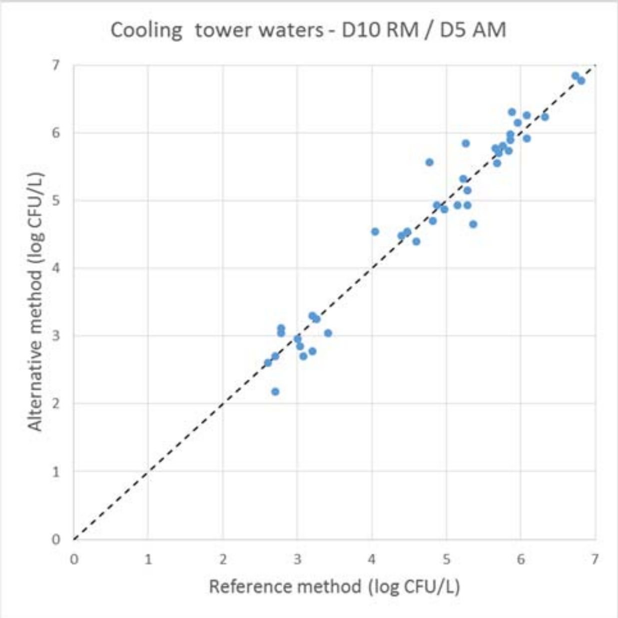
2.1.2. Results

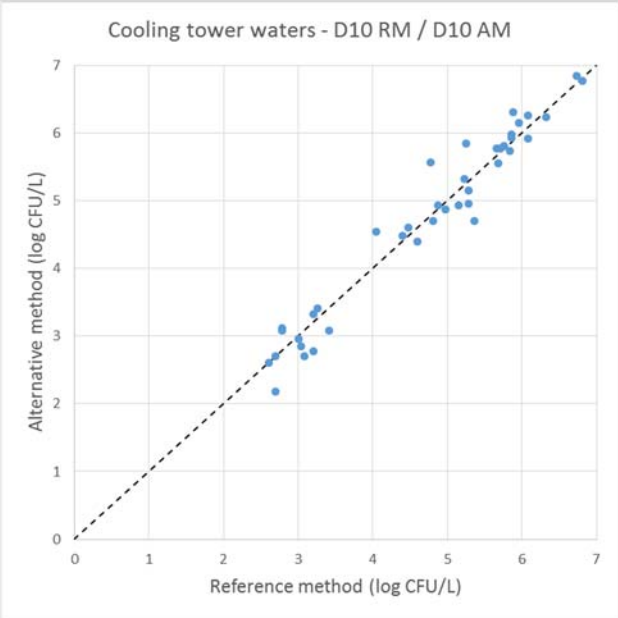
Figure 1 presents the two-dimensional graphs for the three kinds of categories. The y-axis is reserved for the alternative method and the x-axis for the reference method. The line "y=x" figures in dotted line in the different graphs. Raw results are in appendix 4.

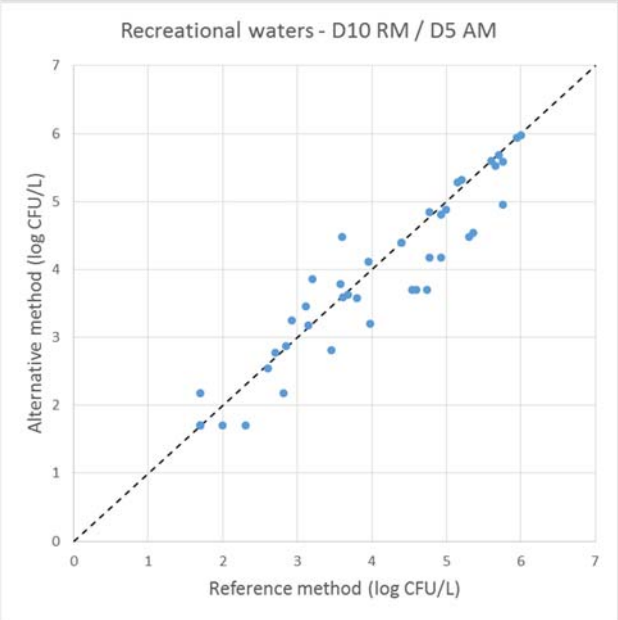
The graphs are established from results according to 5 and 10 days of incubation for the alternative method and 10 days of incubation for the reference method.
The statistical calculations were established from results according to 5, 8 and 10 days incubation for the alternative method and 10 days of incubation for the reference method.

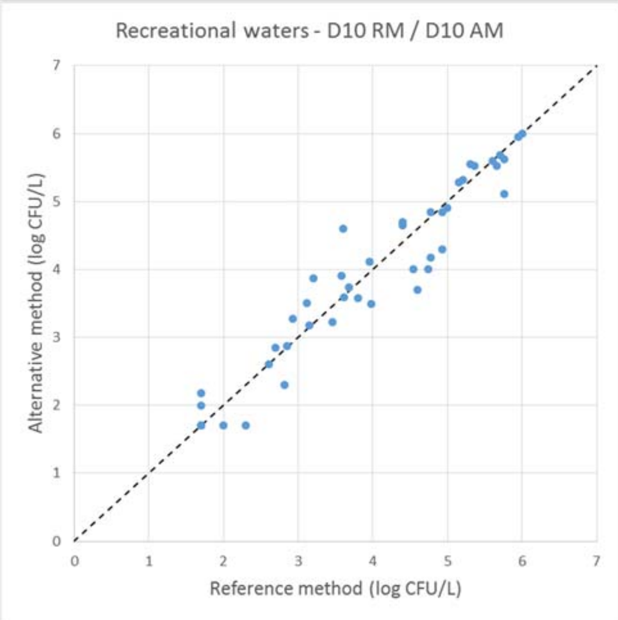

Hot sanitary waters - D10 RM / D5 AM
Alternative method (log CFU/L)
Reference method (log CFU/L)


Hot sanitary waters - D10 RM / D10 AM
Alternative method (log CFU/L)
Reference method (log CFU/L)


Cooling tower waters - D10 RM / D5 AM
Alternative method (log CFU/L)
Reference method (log CFU/L)


Cooling tower waters - D10 RM / D10 AM
Alternative method (log CFU/L)
Reference method (log CFU/L)


Recreational waters - D10 RM / D5 AM
Alternative method (log CFU/L)
Reference method (log CFU/L)


Recreational waters - D10 RM / D10 AM
Alternative method (log CFU/L)
Reference method (log CFU/L)

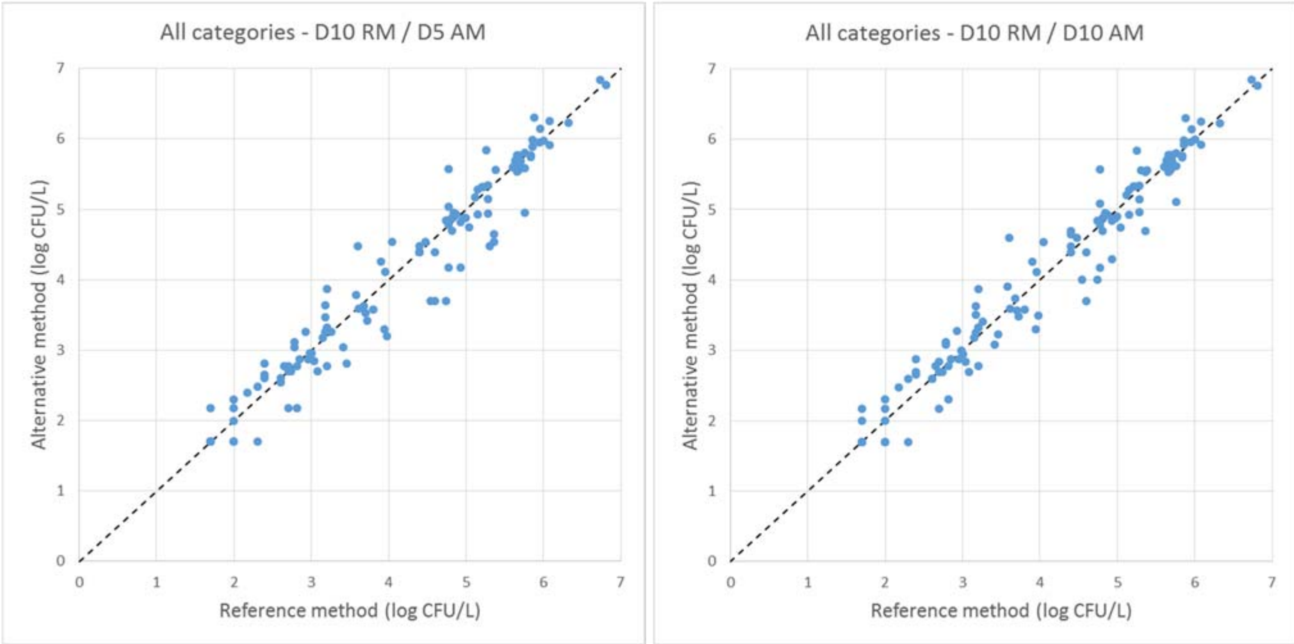


Figure 1: two-dimensional graphs for relative accuracy (D5: five days of incubation, D10: ten days of incubation, RM: reference method, AM: alternative method)

2.1.3. Statistical analysis

The relationship between the reference method and alternative method is evaluated by the linear model: y = a + bx, with y representing the alternative method and x the reference method.

Statistical data, bias and repeatabilities of the two methods are shown in table 2 and table 3.

The best accuracy between the two methods is reached if the equation y = a + bx is equal to the theoretical model y = x.

The intercept "a" is theoretically zero in this ideal model (case [a = 0]). The estimated intercept obtained with both methods was checked using p {a} = 0. If the alternative method shows a systematic bias against the reference method, the probability p {a = 0} is less than α = 0.05.

The slope "b" is theoretically equal to 1 in the ideal model (hypothesis [b = 1]). The estimated slope obtained with both methods must be verified by p = {b 1}. Statistically, if the alternative method does not give the same values as the reference method, the probability p {b} = 1 is less than α = 0.05.

The choice of the linear regression method is compared to the value of the robustness of the ratio R of the standard deviations of repeatability overall:

- if Rob.R> 2, an ordinary least squares regression (OLS 1) is used with the x-axis for the reference method,

- if Rob.R <0.5, an ordinary least squares regression (OLS 2) is used with the x-axis for the alternative method,

- if 0.5 <Rob.R <2, an orthogonal regression (GMFR) is used with the x-axis to the reference method.

The statistical calculations were established from results according to 10 days of incubation for reference method and 5, 8 and 10 days of incubation for alternative method.

Matrix	Reading day for AM	Rob.R	Regression used	T	a	t(a)	b	t(b)	Probabilities (%)	
									Ord. at 0	Slope at 1
SHW	D5	2,266	OLS1	2,086	0,127	1,214	0,978	0,862	23,2	39,4
	D8	2,092	OLS1	2,086	0,166	1,589	0,972	1,078	12,0	28,8
	D10	2,215	OLS1	2,086	0,164	1,577	0,971	1,101	12,3	27,8
CTW	D5	0,619	GMFR	2,086	-0,259	2,098	1,054	1,384	4,3	17,4
	D8 D10	0,619	GMFR	2,086	-0,228	1,843	1,050	1,279	7,3	20,9
RW	D5	1,290	GMFR	2,074	0,006	0,022	0,958	0,616	98,2	54,1
	D8 D10	2,565	OLS1	1,998	0,179	0,884	0,945	1,127	38,2	26,6
All categories	**D5**	**1,363**	**GMFR**	**1,998**	**0,125**	**0,862**	**0,959**	**1,719**	**39,0**	**8,8**
	D8	**1,425**	**GMFR**	**1,998**	**0,080**	**0,645**	**0,983**	**0,853**	**52,0**	**39,5**
	D10	**1,517**	**GMFR**	**1,998**	**0,079**	**0,636**	**0,983**	**0,853**	**52,6**	**39,5**

Table 2 : statistical data (SHW: sanitary hot waters, CTW: cooling towers waters, RW: recreational waters)

Matrix	Reading day for AM	Bias (D)		Repeatability			
		Average	Median	r		Rob.r	
				RM	AM	RM	AM
SHW	D5	0,042	0,047	0,633	0,646	0,211	0,479
	D8	0,060			0,679		0,442
	D10	0,057			0,680		0,468
CTW	D5	-0,006	-0,002	0,768	0,448	0,367	0,227
	D8 D10	0,007			0,438		0,227
RW	D5	-0,159	-0,040	0,791	0,791	0,193	0,249
	D8 D10	-0,037	0,002		0,919		0,494
All categories	**D5**	**-0,045**	**0,000**	**0,735**	**0,747**	**0,236**	**0,322**
	D8	**0,008**	**0,015**	**0,735**	**0,714**	**0,236**	**0,337**
	D10	**0,007**	**0,015**	**0,735**	**0,715**	**0,236**	**0,358**

Table 3: bias and repeatability of the two methods (RM : reference method and AM: alternative method, SHW: sanitary hot waters, CTW: cooling towers waters, RW: recreational waters)

2.1.4. Conclusion

The equations for the different couples are:

Day	Sanitary hot waters	Cooling tower waters	Recreational waters
5	log Alt. = 0,978 log Ref. + 0,127	log Alt. = 1,054 log Ref. - 0,259	log Alt. = 0,958 log Ref. + 0,006
8	log Alt. = 0,972 log Ref. + 0,166	log Alt. = 1,050 log Ref. - 0,228	log Alt. = 0,945 log Ref. + 0,179
10	log Alt. = 0,971 log Ref. + 0,164		

Table 4: equations of the regression lines per category

Considering all categories, the equations of the regression lines are:

- log Alt. = 0,959 log Ref. + 0,125
- log Alt. = 0,983 log Ref. + 0,080
- log Alt. = 0,983 log Ref. + 0,079

The accuracy of the alternative method is satisfactory after 5 days, 8 days and 10 days of incubation of the *Legionella* MWY Petri dishes.

2.2. Linearity

Linearity is defined as the ability of the method to provide results proportional to the amount of microorganisms present in the sample, an increase of the analyte is a linear increase or proportional results.

2.2.1. Contamination level

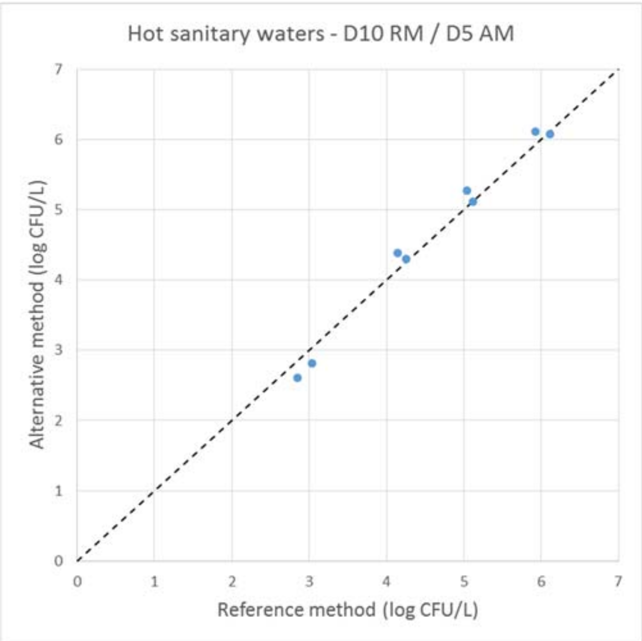
The couples matrix / strain are presented in table 5. For each couple, four contamination levels were tested in duplicate by the reference method and the alternative method.

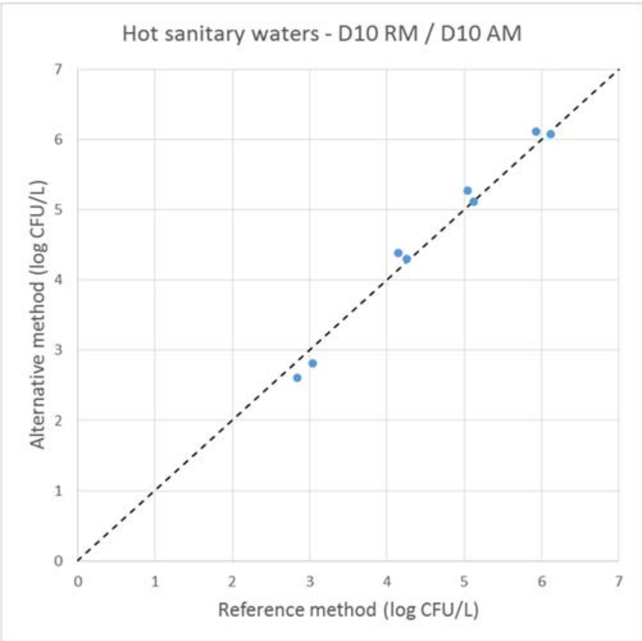
Strain	Matrix	Target contamination level (CFU/L)
Legionella longbeachae	Cooling tower water	500 to 1 000 10 000 100 000 1 000 000
Legionella pneumophila	Sanitary hot water	
Legionella pneumophila	Pool water	

Table 5: couples matrix / strain analysed

2.2.2. Results

The graphs in figure 2 show the values of each sample obtained by the alternative method (after 5 and 10 days of incubation) and the reference method (after 10 days of incubation). The y-axis is for the alternative method and the x-axis for the reference method. Raw results are shown in appendix 5.





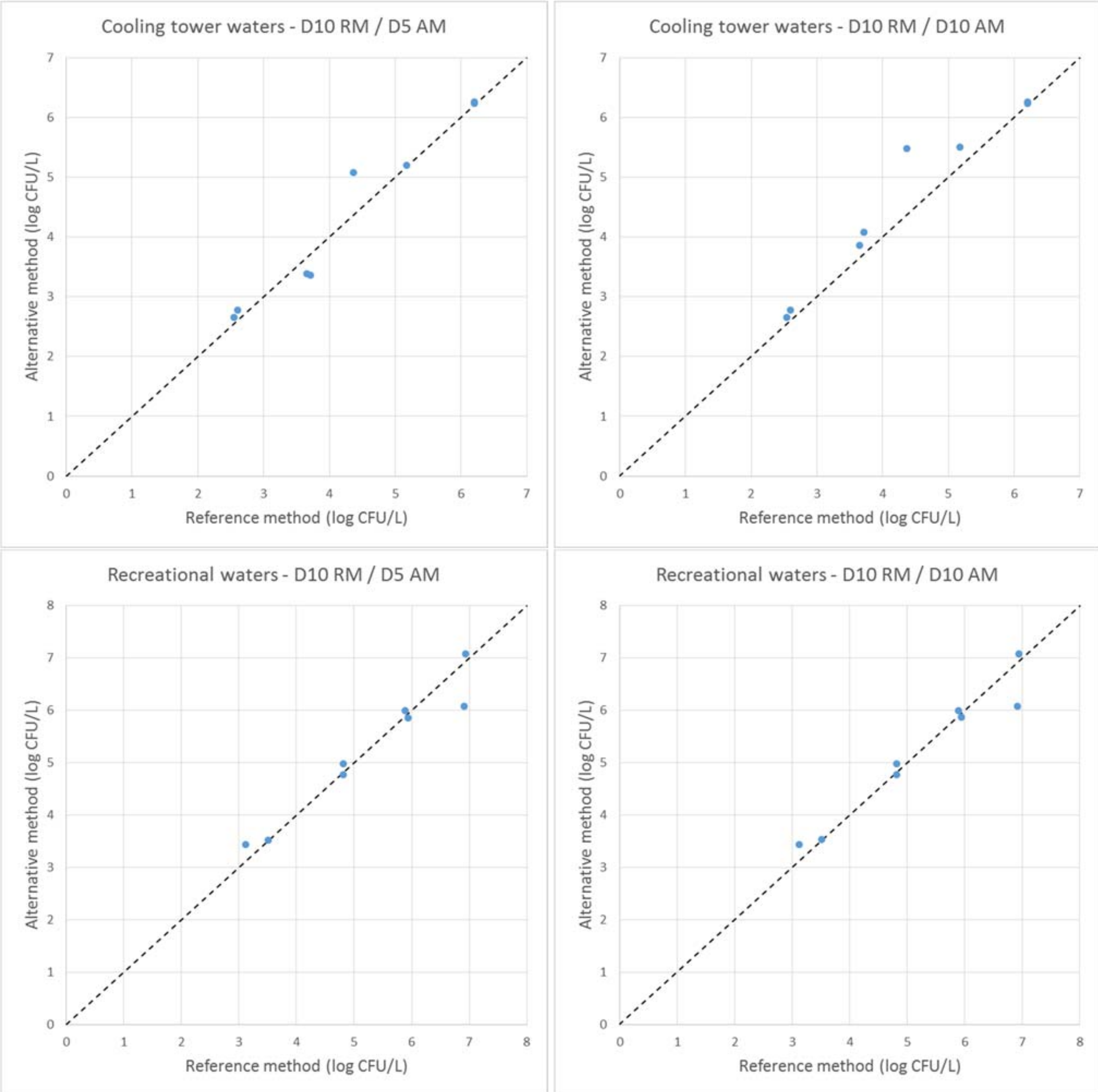


Figure 2: two-dimensional graphs for linearity (D5: five days of incubation, D10: ten days of incubation, RM: reference method, AM: alternative method)

2.2.3. Statistical analysis

Statistical interpretations are made according to requirements of standard NF ISO 16140 (see table 6).
The choice of the linear regression method is compared to the value of the robustness of the ratio R of the standard deviations of repeatability overall:

- if Rob.R> 2, an ordinary least squares regression (OLS 1) is used with the x-axis for the reference method,

- if Rob.R <0.5, an ordinary least squares regression (OLS 2) is used with the x-axis for the alternative method,

- if 0.5 <Rob.R <2, an orthogonal regression (GMFR) is used with the x-axis to the reference method.

Couple strain / matrix	Rob. R	Regression used	F critical	Rob. F	P (Rob.F)	r	Regression
Legionella pneumophila SHW (D5 / D8 / D10)	0,831	GMFR	6,94	6,000	0,063	0,997	log Alt.= 1,101 log Ref. – 0,435
Legionella longbeachae CTW (D5)	1,240	GMFR	6,94	114,7	0,000	0,985	log Alt.= 1,032 log Ref. – 0,076
Legionella longbeachae CTW (D8 / D10)	1,266	GMFR	6,94	124,9	0,000	0,982	log Alt.= 1,006 log Ref. + 0,272
Legionella pneumophila RW (D5)	2,611	OLS 1	6,94	7,584	0,044	0,997	log Alt= 0,892 log Ref + 0,543
Legionella pneumophila RW (D8 / D10)	4,062	OLS 1	6,94	8,341	0,037	0,997	log Alt= 0,894 log Ref + 0,512

Table 6: statistical data (r: correlation coefficient, data grayed: non-linearity according to the test, SHW: sanitary hot waters, CTW: cooling towers waters, RW: recreational waters)

The relationship between the two methods isn't linear:

- if Rob.F > F critical, or
- if P(Rob.F) < α (=0,05)

2.2.4. Conclusion

The relationship between the two methods is linear for the couple *Legionella pneumophila* / sanitary hot waters. For the other couples, the statistical tests show that the linearity isn't satisfactory. However, considering microbiological aspect, the results are correct for these couples and the equations of the regression lines and the correlation coefficients are satisfactory. So, the linearity of the alternative method is satisfactory.

2.3. Limit of detection and limit of quantification

The critical level is defined as the smallest amount that can be detected, but not quantified as an exact value. The detection limit is defined as the level above the critical level. The quantification limit is defined as the smallest amount of analyte that can be measured and quantified with an accuracy and precision defined under the experimental conditions.

2.3.1. Test protocols

The limits of detection and quantification were determined by analyzing a pure culture of *Legionella* spp by the alternative method. Five levels of contamination (including level 0), with six replicates for each level, were studied in sterilized water.

2.3.2. Results

Results are shown in the following tables. Raw results are shown in appendix 6.

Level (CFU/L)	Number of positive samples	Standard deviation (s_0)	Bias (x_0)
0	0	0	0
67	2	25,8	0
<u>132</u>	<u>3</u>	<u>49,2</u>	<u>25</u>
180	4	25,8	50
300	6	37,6	100

Table 7: data (s_0 and x_0) of *Legionella* spp enumeration (underlined: the reference level)

Parameter	Formula	Values obtained (CFU/L)
Critical level (CL)	$1{,}65\ s_0 + x_0$	106,11
Limit of detection (LOD)	$3{,}3\ s_0 + x_0$	187,23
Limit of quantification (LOQ)	$10\ s_0 + x_0$	516,60

Table 8: values obtained of *Legionella* spp enumeration

2.3.3. Conclusion
The detection limit and quantification limit of the alternative method are satisfactory.

2.4. Selectivity
Specificity is defined as the ability of the method to accurately measure a given analyte, or quantity in the sample without interference from non-target components. Selectivity is defined as the ability of the method to measure the analyte only.

2.4.1. Test protocols
Thirty target strains and thirty non-target strains (from national, international and internal collections) were analyzed.

The trials were performed by striking 0,1 mL and decimal dilutions of bacterial suspension on MWY medium.

2.4.2. Results
Results are presented in appendix 7.
All target strains tested are detected by the alternative method.
Among the thirty non-target strains tested, ten showed colonies on *Legionella* MWY medium. The confirmation tests were negative.

2.4.3. Conclusion
Given the overall results, the selectivity of the alternative method can be considered as satisfactory.

2.5. Practicability
The practicability was evaluated according to the 13 criteria defined by AFNOR Technical Committee.

1- Mode of packaging of test components
The MWY medium Petri dishes are packaged in box of 20 Petri dishes.

2- Volume of reagents
None.

3- Storage conditions of components and shelf-life of unopened products
The MWY medium Petri dishes should be conserved at 2 – 8°C.

4- Modalities after first use
Each MWY medium serves a unique analysis and should not be reused.

5- Equipment and specific local requirements
Usual tools for microbiology laboratory.

6- Reagents ready to use or for reconstitution
None.

7- Training period for operator with no experience with the method
Use of the Legionella MWY method does not require special training.
The duration of training is estimated to 1 hour.

8- Handling time and flexibility of the method in relation to the number of samples
The duration of analysis according the reference method is similar to the duration of use of *Legionella* MWY medium method.

9- Time required for results
The delay in obtaining results for the alternative method is 5 days for negative samples and 8 days for positive samples. Concerning the reference method, the delay for negative samples is between 8 and 10 days and for positive samples, the delay is between 11 and 13 days.

10- Operator qualification
Identical as necessary for the reference method

11- Steps common with the reference method
Filtration, inoculation and tests confirmation steps are identical to those applicable for the reference method.

12- Traceability of analysis results
None.

13- Maintenance by laboratory
None.

3. Interlaboratory study

The main object of the interlaboratory study is to determine the variability of the results obtained by different laboratories analyzing identical samples and to compare these results within the framework of the comparative study of the methods.

3.1. Interlaboratory study implementation

3.1.1. Participating laboratories

The interlaboratory study was realized by the expert laboratory and thirteen participating laboratories.

3.1.2. *Legionella* spp absence in the matrix

Before spiking, the absence of *Legionella* was verified in the batch of sanitary hot water (SHW) used according to the reference method.

3.1.3. Strain stability in the matrix

The strain stability in SHW matrix was evaluated for 3 days at (5±3)°C. The strain used was a *Legionella* spp (Code ISHA: LEG.1.6).
The samples were analyzed at D0, D+1 and D+2 by the reference method. The results are summarized in table 9.

	Level 1	Level 2	Level 3
D0	$5{,}2.10^3$	$8{,}0.10^4$	$8{,}5.10^5$
D+1	$4{,}1.10^3$	$5{,}0.10^4$	$8{,}3.10^5$
D+2	$1{,}0.10^3$	$1{,}2.10^4$	$8{,}0.10^5$

Table 9: results (CFU/ L) of the stability study of the strain LEG.1.6 in SHW matrix

The results show that the Legionella strain used is stable for 2 days at (5±3)°C in SHW matrix.

3.1.4. Samples preparation and spiking

The matrix was inoculated with the target strain suspension to obtain 4 contamination levels:
- L0: 0 CFU in 1 L
- L1: 10^3 CFU in 1 L
- L2: 10^4 CFU in 1 L
- L3: 10^5 CFU in 1 L

The matrix was distributed at 1 liter in sterile bottles. Every bottle was individually spiked and homogenized. Eight samples per laboratory were prepared (2 samples per contamination level). Each laboratory received 8 samples to analyze, 1 sample to quantify the endogenous microflora and 1 water sample containing a temperature probe.
The results of the enumerations of the heterophilic flora, the target levels and the real levels of contamination are presented in table 10.

Contamination level	Flora (CFU/mL)		*Legionella* LEG.1.6 (CFU/L)	
	22°C	36°C	Target level	Real level
0	8	5	0	0
1			$5{,}0.10^3$	$8{,}4.10^3$
2			$5{,}0.10^4$	$1{,}6.10^5$
3			$5{,}0.10^5$	$2{,}5.10^6$

Table 10: target level, real level and TVC of the matrix

3.1.5. Samples labeling

The labelling of the bags was realized as follows: a code to identify the laboratory: from A to M (cf. table 11) and a code to identify each sample, only known by the expert laboratory. The samples and the temperature control vials (water sample with a temperature probe) were stored at 4°C before shipping.

Contamination level (CFU/ L)	Sample code
0	1 / 3
10^3	5 / 8
10^4	4 / 6
10^5	2 / 7

Table 11: sample code by contamination level

3.1.6. Samples shipping, reception and analysis

The samples were shipped in a coolbox the 2nd of May 2012.
The coolboxes were received the 3rd of May 2012 by all the participating laboratories. The control temperature was recorded upon receipt of the package and the temperature probe sent to the expert laboratory. The samples were analyzed on the 4th of May by the alternative method and the reference method described in the standard ISO 11731 (1998). The expert laboratory concurrently analyzed a set of samples under the same conditions with the two methods.

3.2. Results

3.2.1. Temperature and state of the samples

The temperature readings upon reception, the state of the samples and the record of the probe are shown in table 12.

Laboratory	Temperature (°C)	State of the samples	Temperature of the probe	
			Mean	SD
A	5,2°C	Correct	2,3	0,5
B	6,1°C	Correct	1,7	0,3
C	7,7°C	Correct	1,3	0,6
D	6,8°C	Correct	1,8	0,3
E	7,0°C	Correct	2,7	0,6
F	1,0°C	Correct	/	/
G	5,6°C	Correct	1,6	0,6
H	8,2°C	Correct	1,0	0,4
I	5,0°C	Correct	2,4	0,6
J	2,3°C	Correct	/	/
K	2,5°C	Correct	1,4	0,3
L	4,8°C	Correct	0,7	0,4
M	/	Correct	/	/

Table 12: temperature and state of the samples upon reception

The analysis of thermal profiles of probes showed for all participants that the average of temperature during the shipment is between 0,7 and 2,7°C.

3.2.2. Enumeration of culturable microorganisms

For the whole laboratories, the culturable microorganisms at 22°C vary between <1 and 42 CFU/mL. At 36°C, the results vary between <1 and 13 CFU/mL. Results are shown in appendix 8.

3.2.3. Expert laboratory and collaborating laboratories results

The overall results are presented in table 13. The results of the reference method and alternative are presented for a reading of the Petri dishes after 5 and 10 days of incubation at (36 ± 2)°C.
For both methods, all counted *Legionella* colonies were confirmed as *Legionella* spp. All results presented are expressed in number of *Legionella* per 1 liter of water.
Data of laboratories G, I, K and M were excluded from final analysis of results:

- Laboratories G and K presented positive results at level 0. Cross-contaminations can explain these results because the serotype found is *L. pneumophila* 2-14.
- Laboratory I didn't apply the expert lab recommendations. This lab didn't use the right dilutions.
- Laboratory M didn't give any information concerning the temperature shipping of the samples.

The results of nine laboratories are presented in the following table 13. Raw results are in appendix 9. It's important to note that, to avoid the dispersion of the results caused by the concentration step, the results for the low level of contamination were interpreted considering the same step (concentration or direct inoculation) for both methods even if a result was available by only one method before the concentration step.

Laboratory	Level 0							
	D5				D10			
	RM		AM		RM		AM	
	R1	R2	R1	R2	R1	R2	R1	R2
A	<250	<250	<250	<250	<250	<250	<250	<250
B	<250	<250	<250	<250	<250	<250	<250	<250
C	<250	<250	<250	<250	<250	<250	<250	<250
D	<250	<250	<250	<250	<250	<250	<250	<250
E	<250	<250	<250	<250	<250	<250	<250	<250
F	<250	<250	<250	<250	<250	<250	<250	<250
H	<250	<250	<250	<250	<250	<250	<250	<250
J	<250	<250	<250	<250	<250	<250	<250	<250
L	<250	<250	<250	<250	<250	<250	<250	<250
Expert	<250	<250	<250	<250	<250	<250	<250	<250

Laboratory	Level 1							
	D5				D10			
	RM		AM		RM		AM	
	R1	R2	R1	R2	R1	R2	R1	R2
A	$6,8.10^{3}$	$1,3.10^{4}$	$6,1.10^{3}$	$1,3.10^{3}$	$6,8.10^{3}$	$1,3.10^{4}$	$6,1.10^{3}$	$1,3.10^{4}$
B	$5,9.10^{3}$	$5,2.10^{3}$	$6,3.10^{3}$	$4,4.10^{3}$	$5,9.10^{3}$	$5,2.10^{3}$	$6,3.10^{3}$	$4,4.10^{3}$
C	$6,0.10^{3}$	$2,5.10^{4}$	$2,5.10^{4}$	$6,3.10^{3}$	$6,0.10^{3}$	$2,5.10^{4}$	$2,5.10^{4}$	$6,3.10^{3}$
D	$4,5.10^{3}$	$4,5.10^{4}$	$3,0.10^{4}$	$5,5.10^{3}$	$4,5.10^{3}$	$4,5.10^{4}$	$3,0.10^{4}$	$5,5.10^{3}$
E	$2,5.10^{4}$	$4,0.10^{3}$	$3,4.10^{3}$	$3,9.10^{3}$	$2,5.10^{4}$	$4,1.10^{3}$	$3,4.10^{3}$	$3,9.10^{3}$
F	$6,5.10^{3}$	$2,5.10^{4}$	$7,6.10^{3}$	$4,5.10^{4}$	$6,5.10^{3}$	$2,5.10^{4}$	$3,5.10^{4}$	$4,5.10^{4}$
H	$3,0.10^{3}$	$1,7.10^{3}$	$3,0.10^{4}$	$1,7.10^{3}$	$3,0.10^{3}$	$1,7.10^{3}$	$3,0.10^{4}$	$1,7.10^{3}$
J	$7,5.10^{3}$	$2,5.10^{3}$	$7,0.10^{3}$	$3,0.10^{4}$	$7,5.10^{3}$	$2,5.10^{3}$	$7,0.10^{3}$	$3,0.10^{4}$
L	$3,1.10^{3}$	$6,0.10^{3}$	$4,2.10^{3}$	$5,5.10^{3}$	$3,1.10^{3}$	$6,0.10^{3}$	$4,2.10^{3}$	$5,5.10^{3}$
Expert	$6,3.10^{3}$	$5,6.10^{3}$	$5,2.10^{3}$	$5,9.10^{3}$	$6,3.10^{3}$	$5,6.10^{3}$	$5,2.10^{3}$	$5,9.10^{3}$

Laboratory	Level 2							
	D5				D10			
	RM		AM		RM		AM	
	R1	R2	R1	R2	R1	R2	R1	R2
A	$3,5.10^5$	$3,1.10^5$	$3,6.10^5$	$3,0.10^5$	$3,5.10^5$	$3,1.10^5$	$3,6.10^5$	$3,0.10^5$
B	$3,7.10^5$	$2,8.10^5$	$3,7.10^5$	$2,2.10^5$	$3,7.10^5$	$2,8.10^5$	$3,7.10^5$	$2,2.10^5$
C	$4,9.10^5$	$4,8.10^5$	$5,1.10^5$	$5,6.10^5$	$4,9.10^5$	$4,8.10^5$	$5,1.10^5$	$5,6.10^5$
D	$4,8.10^5$	$3,8.10^5$	$3,3.10^5$	$3,9.10^5$	$4,8.10^5$	$3,8.10^5$	$3,3.10^5$	$3,9.10^5$
E	$3,0.10^5$	$3,6.10^5$	$3,0.10^5$	$4,8.10^5$	$3,0.10^5$	$3,6.10^5$	$3,0.10^5$	$4,8.10^5$
F	$3,6.10^5$	$4,1.10^5$	$2,9.10^5$	$3,1.10^5$	$3,7.10^5$	$4,1.10^5$	$3,0.10^5$	$3,3.10^5$
H	$3,1.10^5$	$3,8.10^5$	$4,2.10^5$	$3,2.10^5$	$3,1.10^5$	$4,1.10^5$	$4,2.10^5$	$3,2.10^5$
J	$3,1.10^5$	$3,1.10^5$	$2,6.10^5$	$2,0.10^5$	$3,1.10^5$	$3,1.10^5$	$2,6.10^5$	$2,1.10^5$
L	$3,4.10^5$	$3,5.10^5$	$3,3.10^5$	$3,4.10^5$	$3,4.10^5$	$3,5.10^5$	$3,3.10^5$	$3,4.10^5$
Expert	$3,4.10^5$	$4,0.10^5$	$4,1.10^5$	$4,0.10^5$	$3,4.10^5$	$4,0.10^5$	$4,1.10^5$	$4,0.10^5$

Laboratory	Level 3							
	D5				D10			
	RM		AM		RM		AM	
	R1	R2	R1	R2	R1	R2	R1	R2
A	$2,9.10^6$	$3,6.10^6$	$2,7.10^6$	$3,0.10^6$	$2,9.10^6$	$3,6.10^6$	$2,7.10^6$	$3,0.10^6$
B	$5,0.10^6$	$3,7.10^6$	$4,8.10^6$	$4,8.10^6$	$5,0.10^6$	$3,7.10^6$	$4,8.10^6$	$4,8.10^6$
C	$5,7.10^6$	$7,1.10^6$	$6,1.10^6$	$7,8.10^6$	$5,7.10^6$	$7,1.10^6$	$6,1.10^6$	$7,8.10^6$
D	$6,8.10^6$	$7,3.10^6$	$6,0.10^6$	$7,1.10^6$	$6,8.10^6$	$7,3.10^6$	$6,0.10^6$	$7,1.10^6$
E	$5,0.10^6$	$7,0.10^6$	$6,4.10^6$	$5,4.10^6$	$5,2.10^6$	$7,0.10^6$	$6,4.10^6$	$5,5.10^6$
F	$4,9.10^6$	$5,8.10^6$	$4,2.10^6$	$5,5.10^6$	$4,9.10^6$	$5,8.10^6$	$4,2.10^6$	$5,5.10^6$
H	$4,3.10^6$	$3,5.10^6$	$4,6.10^6$	$4,5.10^6$	$4,3.10^6$	$3,5.10^6$	$4,6.10^6$	$4,5.10^6$
J	$4,2.10^6$	$4,6.10^6$	$3,7.10^6$	$4,0.10^6$	$4,2.10^6$	$4,6.10^6$	$3,7.10^6$	$4,0.10^6$
L	$4,2.10^6$	$5,0.10^6$	$4,8.10^6$	$3,5.10^6$	$4,2.10^6$	$5,0.10^6$	$4,8.10^6$	$3,5.10^6$
Expert	$7,3.10^6$	$6,7.10^6$	$6,6.10^6$	$6,8.10^6$	$7,3.10^6$	$6,7.10^6$	$6,6.10^6$	$6,8.10^6$

Table 13: *Legionella* enumeration results for 1 liter sample water (RM: reference method, AM: alternative method, R1: repetition 1 and R2: repetition 2)

3.3. Interpretation

The data presented in the following paragraphs were calculated from the results in $\log_{10}$ CFU/L in the same way that the presentation of the results of the comparative study.

3.3.1. Bias calculation

Table 14 shows the target value, the mean, standard deviation of fidelity, the relative bias and the bias of each level of contamination at 5 and 10 days of incubation for the alternative method.

Values	D5 log (UFC/L)			D10 log (UFC/L)		
Contamination level	**Low***	**Medium**	**High**	**Low***	**Medium**	**High**
Target value	3,728	5,550	6,695	3,728	5,550	6,695
Mean	3,740	5,529	6,677	3,740	5,532	6,678
Standard deviation of fidelity (sFI)	0,309	0,118	0,127	0,309	0,115	0,127
Intermediary coefficient	1,038	1,040	1,049	1,038	1,039	1,049
Number of degree of freedom	14,055	13,323	9,767	14,055	13,502	9,723
Relative bias	3,33%	-0,39%	-0,26%	3,33%	-0,32%	-025%
Bias	0,012	-0,022	-0,017	0,012	-0,018	-0,017

Table 14: Calculation of the alternative method bias (*: recalculated data using the same Petri dish to obtain the final result)

3.3.2. Accuracy profile

Tables 15 and 16 shows the values of tolerance and the tolerance limits of the alternative method for a probability value of tolerance of 80% after 5 days of incubation (table 15) and 10 days of incubation (table 16).

Probability of tolerance	**Niveaux**	**Log CFU/L**		
		Low*	**Medium**	**High**
80%	Low tolerance value	3,309	5,363	6,494
	High tolerance value	4,172	5,694	6,860
	Low tolerance limit	-0,419	-0,187	-0,200
	High tolerance limit	0,443	0,144	0,166

Table 15: Values and tolerance limits of the alternative method after 5 days of incubation (*: recalculated data using the same Petri dish to obtain the final result)

Probability of tolerance	**Niveaux**	**Log CFU/L**		
		Low*	**Medium**	**High**
80%	Low tolerance value	3,309	5,372	6,494
	High tolerance value	4,172	5,693	6,861
	Low tolerance limit	-0,419	-0,179	-0,200
	High tolerance limit	0,443	0,143	0,167

Table 16: Values and tolerance limits of the alternative method after 10 days of incubation (*: recalculated data using the same Petri dish to obtain the final result)

Figures 5 and 6 show the accuracy profiles in log CFU/L.

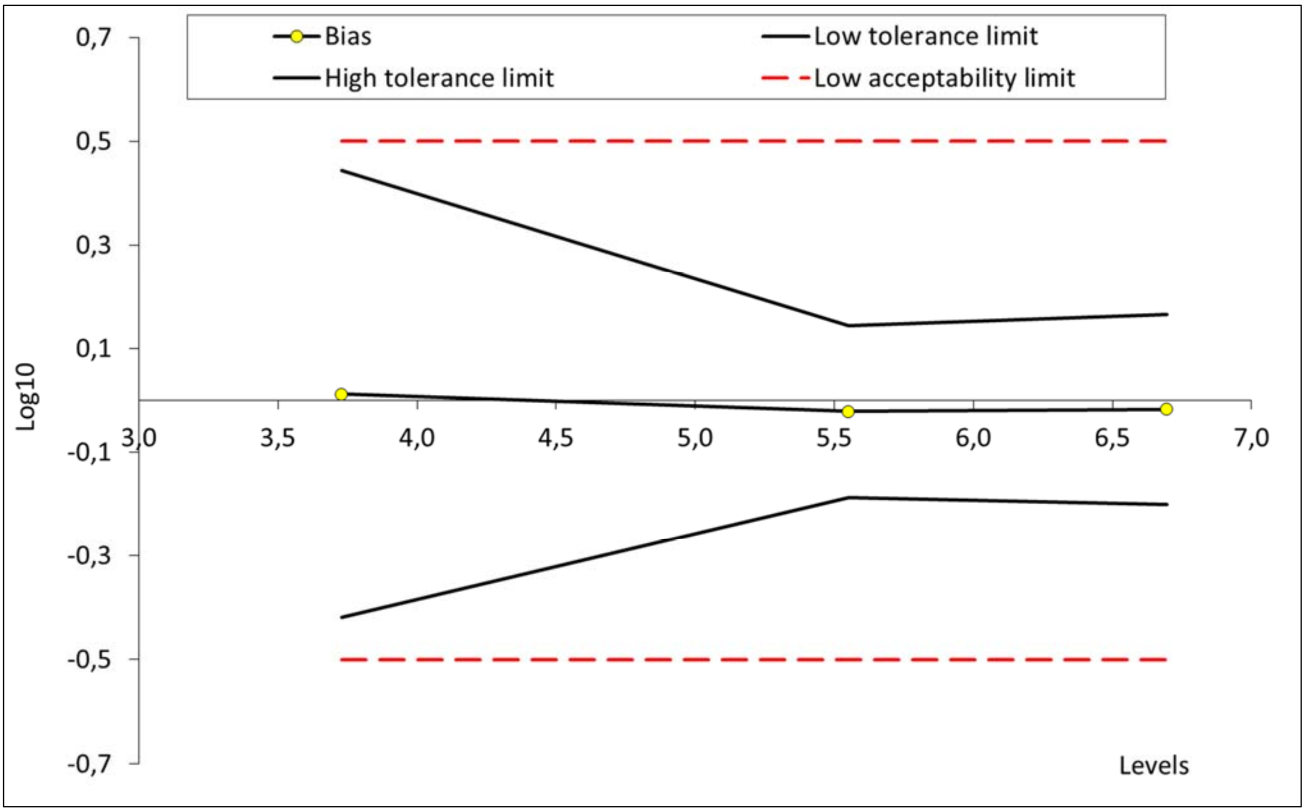


Figure 5: Accuracy profile of the alternative method with tolerance probability of 80 % and acceptability limits at 0,5 log after 5 days of incubation

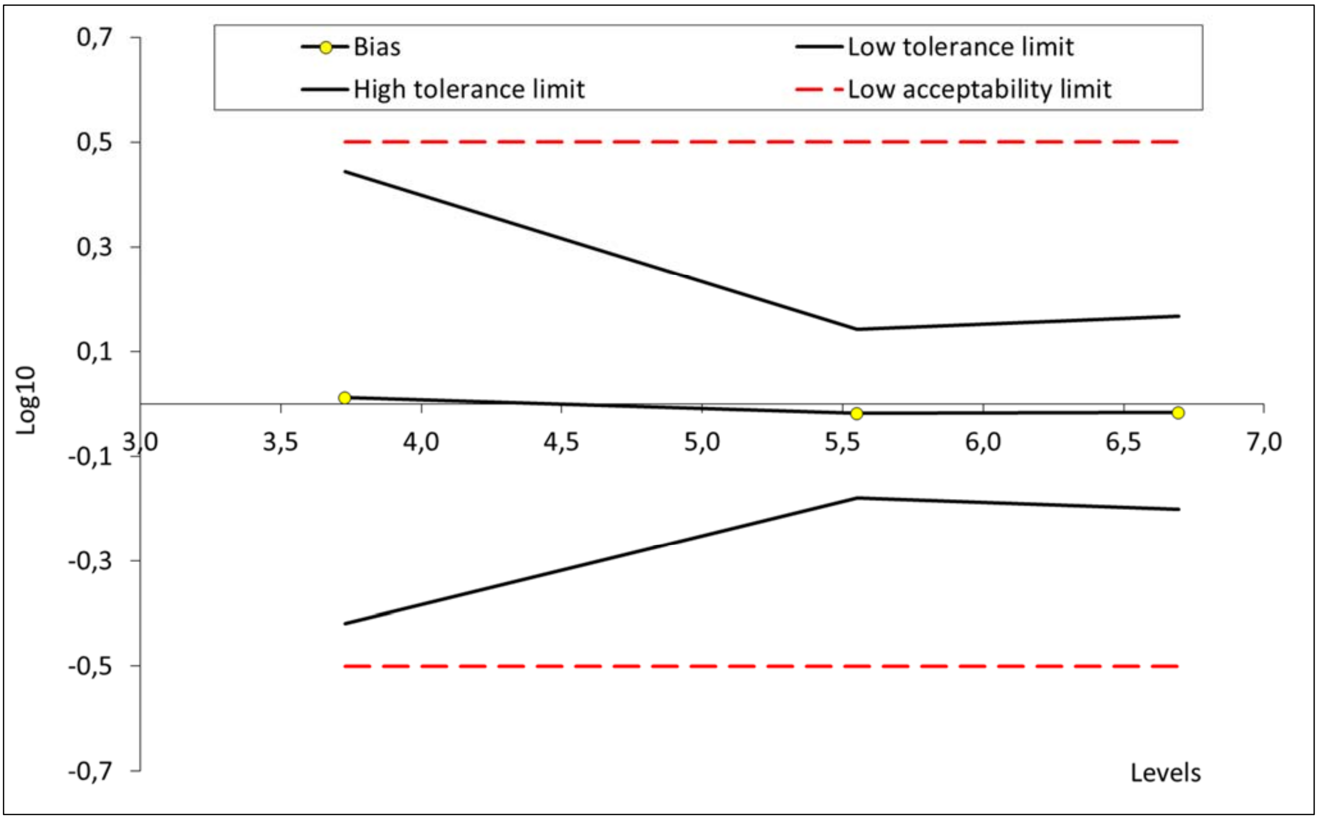


Figure 6: Accuracy profile of the alternative method with tolerance probability of 80 % and acceptability limits at 0,5 log after 10 days of incubation

- **Comments**

The accuracy profiles obtained from the results of the reference method and the alternative method show that the bias of *Legionella* MWY method for the enumeration of *Legionella* spp after 5 days of incubation in sanitary hot waters, cooling towers waters and recreational waters is acceptable.

The tolerance limits of the alternative method for a probability of 80% tolerance are included within the limits of acceptability of 0,5 log in the same condition of incubation (5days).

4. Conclusion

The method *Legionella* MWY was compared to:

- the standard ISO 11731 (1998) for sanitary hot waters and clean recreational waters,
- the standards ISO 11731 (1998) and NF T90-431 (2014) for cooling towers waters and dirty recreational waters.

Concerning the comparative study, the performances of the method *Legionella* MWY for the enumeration of *Legionella* in hot sanitary waters, cooling tower waters and recreational waters are comparable to those of the standard ISO 11731 (1998) for all categories and to the standard NF T90-431 (2014) for cooling towers waters and dirty recreational waters.

This study concerned 62 samples of three categories of waters.

The linearity and relative accuracy of the *Legionella* MWY method for the enumeration of *Legionella* spp in sanitary hot waters, cooling towers waters and recreational waters are satisfactory.
The bias between the two methods is acceptable. The limits of detection and quantification of the method are satisfactory.
Legionella MWY method for the enumeration of *Legionella* spp is specific and selective.

Concerning the interlaboratory study, the bias of the alternative method is relatively stable from the low level of contamination to the high level of contamination.
For all levels of contamination, the tolerance limits are between the limits of acceptability, meaning that at least 80% of the results will be between the limits of acceptability as defined at 0,4 log after 5 days of incubation.

Massy, 25th July 2016,
François Le Nestour
Innovation Biology Unit Manager

APPENDIX 1

PROTOCOL OF THE ALTERNATIVE METHOD

1. Pre-warm the Petri dishes at ambient temperature,

2. Use 2 Petri dishes for the direct inoculation on MWY medium: 0,2 mL of pure sample and 0,2 mL of the sample diluted at 1/10th in PBS diluent,

3. Filtration of 1 liter of sample, extraction of Legionella cells on filter membrane by mechanical action, or centrifugation of 500 mL of sample for non-filterable samples.

4. Inoculation of MWY medium after concentration step directly and after dilution (1/10),

5. Inoculation of MWY medium after concentration and acid treatment,

6. Inoculation of MWY medium after concentration and thermal treatment,

7. Incubation of all Petri dishes at (36 ± 2) °C during 10 days, the cells growing must be exanimated after 3, 5, 8 and 10 days,

8. After incubation, note the presence of typical colonies, who generally present grey-blue color,

9. Tests confirmation: strike typical colonies on BCYE w/o cysteine and BCYE with cysteine and incubate at (36 ± 2) °C during 72 hours. *Legionella* cells grow only on BCYE with cysteine.
Confirmation of *Legionella pneumophila* species by SLIDEX latex test. In case of presence of typical colonies only on BCYE with cysteine and not confirmed by the SLIDEX test, a different latex test for confirmation of *Legionella* spp has been used.

10. Expression of results

APPENDIX 2

PROTOCOL OF THE REFERENCE METHOD

according to:

- ISO 11731 (1998) for sanitary hot waters and clean recreational waters

- ISO 11731 (1998) and NF T90-431 (2014) for cooling towers waters and dirty recreational waters

Direct inoculation

- Inoculation of 0,2 ml of water sample on GVPC medium and 1:10 dilution

Inoculation after concentration

- Concentrate the water sample by filtration and extraction of *Legionella* cells on filter membrane by mechanical action or
- Concentrate the water sample by centrifugation for the non-filterable samples
- Inoculation of GVPC medium after concentration step directly and after dilution (1/10)
- Inoculation of GVPC medium after concentration and acid treatment
- Inoculation of GVPC medium after concentration and thermal treatment
- Inoculation of GVPC medium after concentration and thermal and acid treatments

Incubation

Incubation of Petri dishes at (36 ± 2) °C during 10 days, the cells growing must be exanimate after 3, 5, 8 and 10 days

Reading and interpretation

Presence of typical colonies, who presents generally grey-blue color must be tested. Colonies with yellow, green, white, brown, violet and pink color must be tested too. Aged colonies can became white.

Confirmation tests

Strike typical colonies on BCYE w/o cysteine, BCYE with cysteine and blood agar, incubate at (36 ± 2)°C during 72 hours. *Legionella* cells grow only on BCYE with cysteine.
Confirmation of *Legionella pneumophila* species by latex test

Results expression

The results must be expressed as recommended in the standards

Appendix 3 - Bacterial stress

Cooling tower waters

Code	Souche	Origine	Stress appliqué	Intensité du stress	Numéro	Eau
LEG.1.14	*Legionella pneumophila* sérogroupe 12	Souche clinique	15 jours à -20°C + 30 min à 37°C	0,6	10	Puteaux
LEG.3.1	*Legionella anisa*	CIP 103870	2min à 56°C	0,5	18	Clichy
LEG.3.1	*Legionella anisa*	CIP 103870	2min à 56°C	0,5	20	Velizy
LEG.1.3	*Legionella pneumophila* sérogroupe 1	Souche clinique	45 min à 51°C	0,5	21	Courbevoie
LEG.1.1	*Legionella pneumophila gr 1*	eau chaude sanitaire	10 min à 56°C	0,6	22	Paris 2
LEG.1.1	*Legionella pneumophila gr 1*	eau chaude sanitaire	10 min à 56°C	0,6	23	St Denis
LEG.1.4	*Legionella pneumophila* sérogroupe 2	Souche clinique	4j à 4°C + 10 min à 41°C	0,5	24	Paris 8
LEG.1.4	*Legionella pneumophila* sérogroupe 2	Souche clinique	4j à 4°C + 10 min à 41°C	0,5	25	Argenteuil
LEG.1.4	*Legionella pneumophila* sérogroupe 2	Souche clinique	4j à 4°C + 10 min à 41°C	0,5	26	Rambouillet
LEG.1.6	*Legionella pneumophila* sérogroupe 4	Souche clinique	4j à 4°C + 10 min à 41°C	0,5	27	Etampes
LEG.1.6	*Legionella pneumophila* sérogroupe 4	Souche clinique	4j à 4°C + 10 min à 41°C	0,5	28	La defense
LEG.1.5	*Legionella pneumophila* sérogroupe 3	Souche clinique	Stress chloration	0,5	30	Rosny sous bois
LEG.1.6	*Legionella pneumophila* sérogroupe 4	Souche clinique	4j à 4°C + 10 min à 41°C	0,5	32	Cergy Pontoise
LEG.1.6	*Legionella pneumophila* sérogroupe 4	Souche clinique	4j à 4°C + 10 min à 41°C	0,5	33	Rueil-Malmaison
LEG.1.14	*Legionella pneumophila* sérogroupe 12	Souche clinique	15 jours à -20°C + 30 min à 37°C	0,64	37	Paris 18
LEG.1.14	*Legionella pneumophila* sérogroupe 12	Souche clinique	15 jours à -20°C + 30 min à 37°C	0,64	38	Nanterre
LEG.1.12	*Legionella pneumophila* sérogroupe 10	Souche clinique	7 min à 56 °C	0,55	40	Paris 16

Hot sanitary waters

Code	Souche	Origine	Stress appliqué	Intensité du stress	Numéro	Eau
LEG.1.16	*Legionella pneumophila* sérogroupe 14	Souche clinique	5 min à 56°C	0,6	12	Elancourt
LEG.5.1	*Legionella bozemanii*	CIP 103872	21 jours à -80°C, 30 min à 37°C	0,5	19	Boussy Saint Antoine
LEG.19.1	*Legionella parisiensis*	Souche clinique	15 jours à -20°C + 30 min à 37°C	1,1	22	Nantes
LEG.2.1	*Legionella spp*	Eau tour aérorefrigérante	20 min à 56°C	2,2	5	Paris 11
LEG.1.1	*Legionella pneumophila gr 1*	eau chaude sanitaire	10 min à 56°C	0,6	16	Paris 14
LEG.2.1	*Legionella spp*	Eau tour aérorefrigérante	20 min à 56°C	2,2	17	Mont Louis
LEG.5.1	*Legionella bozemanii*	CIP 103872	21 jours à -80°C, 30 min à 37°C	0,5	18	Levallois
LEG.5.1	*Legionella bozemanii*	CIP 103872	21 jours à -80°C, 30 min à 37°C	0,5	20	Crosne
LEG.19.1	*Legionella parisiensis*	Souche clinique	15 jours à -20°C + 30 min à 37°C	1,1	21	Versailles
LEG.1.14	*Legionella pneumophila* sérogroupe 12	Souche clinique	15 jours à -20°C + 30 min à 37°C	0,6	23	Malakoff
LEG.1.14	*Legionella pneumophila* sérogroupe 12	Souche clinique	15 jours à -20°C + 30 min à 37°C	0,6	24	Elancourt
LEG.1.14	*Legionella pneumophila* sérogroupe 12	Souche clinique	15 jours à -20°C + 30 min à 37°C	0,6	25	Massy
LEG.1.6	*Legionella pneumophila* sérogroupe 4	Souche clinique	4j à 4°C + 10 min à 41°C	0,5	30	Alfortville
LEG.1.4	*Legionella pneumophila* sérogroupe 2	Souche clinique	4j à 4°C + 10 min à 41°C	0,5	31	Longjumeau
LEG.1.4	*Legionella pneumophila* sérogroupe 2	Souche clinique	4j à 4°C + 10 min à 41°C	0,5	32	Lieusaint
LEG.1.6	*Legionella pneumophila* sérogroupe 4	Souche clinique	4j à 4°C + 10 min à 41°C	0,5	33	Rungis
LEG.1.6	*Legionella pneumophila* sérogroupe 4	Souche clinique	4j à 4°C + 10 min à 41°C	0,5	34	Morlant
LEG.1.6	*Legionella pneumophila* sérogroupe 4	Souche clinique	4j à 4°C + 10 min à 41°C	0,5	29	Colombes

Recreational waters

Code	Souche	Origine	Stress appliqué	Intensité du stress	Numéro	Eau
LEG.1.1	*Legionella pneumophila gr 1*	Eau chaude sanitaire	Stress par chloration	0,5	T1	Thermes de la Léchère
LEG.1.4	*Legionella pneumophila gr 2*	Origine clinique	7 min à 56°C+ 7 min à 66°C	0,8	T2	Thermes de St Gervais Les Bains Forage De Mey Est
LEG.1.4	*Legionella pneumophila gr 2*	Origine clinique	7 min à 56°C+ 7 min à 66°C	0,8	T5	Thermes Thonons les bains
LEG.1.6	*Legionella pneumophila gr 4*	Origine clinique	Stress par chloration	0,6	T3	Thermes de St Gervais Les Bains Forage Lépinay
LEG.1.6	*Legionella pneumophila gr 4*	Origine clinique	Stress par chloration	0,6	T7	Thermes d'Aix les Bains
LEG.1.6	*Legionella pneumophila gr 4*	Origine clinique	Stress par chloration	0,6	B6	Plage de la Pinéde Thonon les Bains
LEG.1.5	*Legionella pneumophila gr 3*	Origine clinique	Stress par chloration	0,6	P8	Piscine d'Aix les Bains
LEG.1.5	*Legionella pneumophila gr 3*	Origine clinique	Stress par chloration	0,6	T9	Thermes d'Uriage les Bains
LEG.1.5	*Legionella pneumophila gr 3*	Origine clinique	Stress par chloration	0,6	L10	Lac de Lacanau
LEG.1.14	*Legionella pneumophila gr 12*	Origine clinique	7 min à 56°C+ 7 min à 66°C	0,8	P4	Piscine Paris 2
LEG.1.14	*Legionella pneumophila gr 12*	Origine clinique	10 min à 56°C	0,5	T13	Thermes de la Bourboule Les grands thermes
LEG.1.14	*Legionella pneumophila gr 12*	Origine clinique	10 min à 56°C	0,5	T12	Thermes de la Bourboule Choussy
LEG.1.14	*Legionella pneumophila gr 12*	Origine clinique	10 min à 56°C	0,5	3T	Thermes de Thonon les Bains
LEG.1.3	*Legionella pneumophila gr 1*	Origine clinique	5 min à 56°C	0,5	9T	Lac de Saint Christoly
LEG.1.5	*Legionella pneumophila gr 3*	Origine clinique	7 min à 56°C	0,5	P15	Piscine Thermes de St Gervais les bains
LEG.1.3	*Legionella pneumophila gr 1*	Origine clinique	5 min à 56°C	0,5	10T	Thermes de Vichy
LEG.1.17	*Legionella pneumophila gr 15*	Origine clinique	7 min à 56°C	0,5	J1	Jacuzzi Saint Genevièves des bois
LEG.1.17	*Legionella pneumophila gr 15*	Origine clinique	7 min à 56°C	0,5	A	Lac Aiguebelette
LEG.1.17	*Legionella pneumophila gr 15*	Origine clinique	7 min à 56°C	0,5	J2	Jacuzzi Paris 8
LEG.6.1	*Legionella cherrii*	Origine clinique	7 min à 56°C+ 5 min à 66°C	1,1	J3	Jacuzzi
LEG.5.1	*Legionella bozemanii*	CIP 103872	7 min à 56°C+ 7 min à 66°C	1,1	L1	Lac Bourget
LEG.1.9	*Legionella pneumophila gr 7*	Origine clinique	7 min à 56°C+ 7 min à 66°C	0,6	P16	Piscine Chantilly
LEG.1.9	*Legionella pneumophila gr 7*	Origine clinique	7 min à 56°C+ 7 min à 66°C	0,6	T18	Piscine Evian les bains
LEG.1.9	*Legionella pneumophila gr 7*	Origine clinique	7 min à 56°C+ 7 min à 66°C	0,6	L1	Lac Bourget
LEG.1.9	*Legionella pneumophila gr 7*	Origine clinique	7 min à 56°C+ 7 min à 66°C	0,6	L18	Lac de nantes
LEG.1.2	*Legionella pneumophila gr 2-14*	Eau chaude sanitaire	7 min à 56°C+ 5 min à 66°C	0,5	L18	Lac de nantes
LEG.1.9	*Legionella pneumophila gr 7*	Origine clinique	7 min à 56°C+ 7 min à 66°C	0,6	P19	Piscine Villiers sur orge

Résultat non exploitable

Appendix 4

Relative accuracy raw results and stats

Relative accuracy - hot sanitary waters

	Eau	Origine	Contamination	Analyse	Méthode de référence ISO 11731 (mai 1998)								Méthode alternative Legionella MWY							
					R1				R2				R1				R2			
					UFC/L	Confirm latex	Résultats confirmés		UFC/L	Confirm latex	Résultats confirmés		UFC/L	Confirm latex	Résultats confirmés		UFC/L	Confirm latex	Résultats confirmés	
							UFC/L	***Log 10 (UFC/L)***			**UFC/L**	***Log 10 (UFC/L)***		Kit Slidex	**UFC/L**	***Log 10 (UFC/L)***		Kit Slidex	**UFC/L**	***Log 10 (UFC/L)***
1	12	Elancourt	LEG.1.17	J3	<250	Lp sg2-14	**<250**	***/***	<250	Lp sg2-14	**<250**	***/***	<250	Lp sg2-15	**<250**	***/***	<250	Lp sg2-15	**<250**	***/***
				J5	<250	Lp sg2-14	**<250**	***/***	2,0E+02	Lp sg2-14	**2,0E+02**	***2,301***	<250	Lp sg2-15	**<250**	***/***	3,0E+02	Lp sg2-15	**3,0E+02**	***2,477***
				J8	5,0E+01	Lp sg2-14	**5,0E+01**	***1,699***	2,0E+02	Lp sg2-14	**2,0E+02**	***2,301***	5,0E+01	Lp sg2-15	**5,0E+01**	***1,699***	4,0E+02	Lp sg2-15	**4,0E+02**	***2,602***
				J10	5,0E+01	Lp sg2-14	**5,0E+01**	***1,699***	2,0E+02	Lp sg2-14	**2,0E+02**	***2,301***	5,0E+01	Lp sg2-15	**5,0E+01**	***1,699***	4,0E+02	Lp sg2-15	**4,0E+02**	***2,602***
2	19	Boussy Saint Antoine	LEG.5.1	J3	<250	Leg spp	**<250**	***/***	<250	Leg spp	**<250**	***/***	<250	- *	**<250**	***/***	<250	- *	**5,0E+01**	***1,699***
				J5	1,0E+02	Leg spp	**1,0E+02**	***2,000***	5,0E+01	Leg spp	**5,0E+01**	***1,699***	1,5E+02	- *	**1,5E+02**	***2,176***	5,0E+01	- *	**5,0E+01**	***1,699***
				J8	1,0E+02	Leg spp	**1,0E+02**	***2,000***	5,0E+01	Leg spp	**5,0E+01**	***1,699***	1,5E+02	- *	**1,5E+02**	***2,176***	5,0E+01	- *	**5,0E+01**	***1,699***
				J10	1,0E+01	Leg spp	**1,0E+02**	***2,000***	5,0E+01	Leg spp	**5,0E+01**	***1,699***	1,5E+02	- *	**1,5E+02**	***2,176***	5,0E+01	- *	**5,0E+01**	***1,699***
3	22	Nantes	LEG.19.1	J3	<250	Leg spp	**<250**	***/***	<250	Leg spp	**<250**	***/***	<250	- *	**<250**	***/***	<250	- *	**<250**	***/***
				J5	1,5E+02	Leg spp	**1,5E+02**	***2,176***	1,0E+02	Leg spp	**1,0E+02**	***2,000***	2,5E+02	- *	**2,5E+02**	***2,398***	1,0E+02	- *	**1,0E+02**	***2,000***
				J8	1,5E+02	Leg spp	**1,5E+02**	***2,176***	1,0E+02	Leg spp	**1,0E+02**	***2,000***	3,0E+02	- *	**3,0E+02**	***2,477***	1,0E+02	- *	**1,0E+02**	***2,000***
				J10	1,5E+02	Leg spp	**1,5E+02**	***2,176***	1,0E+02	Leg spp	**1,0E+02**	***2,000***	3,0E+02	- *	**3,0E+02**	***2,477***	1,0E+02	- *	**1,0E+02**	***2,000***
4	5	Paris 11	LEG.2.1	J3	4,9E+05	Leg spp	**4,9E+05**	***5,690***	4,1E+05	Leg spp	**4,1E+05**	***5,613***	3,8E+05	- *	3,8E+05	***5,580***	4,8E+05	- *	4,8E+05	***5,681***
				J5	4,9E+05	Leg spp	**4,9E+05**	***5,690***	4,1E+05	Leg spp	**4,1E+05**	***5,613***	3,8E+05	- *	3,8E+05	***5,580***	5,0E+05	- *	5,0E+05	***5,699***
				J8	4,9E+05	Leg spp	**4,9E+05**	***5,690***	4,3E+05	Leg spp	**4,3E+05**	***5,633***	3,8E+05	- *	3,8E+05	***5,580***	5,0E+05	- *	5,0E+05	***5,699***
				J10	4,9E+05	Leg spp	**4,9E+05**	***5,690***	4,3E+05	Leg spp	**4,3E+05**	***5,633***	3,8E+05	- *	3,8E+05	***5,580***	5,0E+05	- *	5,0E+05	***5,699***
5	13	Gennevilliers	NC	J3	4,8E+05	Lp sg1	**4,8E+05**	***5,681***	4,8E+05	Lp sg1	**4,8E+05**	***5,681***	9,5E+04	Lp sg1	**9,5E+04**	***4,978***	8,0E+04	Lp sg1	8,0E+04	***4,903***
				J5	4,8E+05	Lp sg1	**4,8E+05**	***5,681***	4,8E+05	Lp sg1	**4,8E+05**	***5,681***	4,5E+05	Lp sg1	**4,5E+05**	***5,653***	5,8E+05	Lp sg1	5,8E+05	***5,763***
				J8	4,8E+05	Lp sg1	**4,8E+05**	***5,681***	4,8E+05	Lp sg1	**4,8E+05**	***5,681***	4,5E+05	Lp sg1	**4,5E+05**	***5,653***	5,8E+05	Lp sg1	5,8E+05	***5,763***
				J10	4,8E+05	Lp sg1	**4,8E+05**	***5,681***	4,8E+05	Lp sg1	**4,8E+05**	***5,681***	4,5E+05	Lp sg1	**4,5E+05**	***5,653***	5,8E+05	Lp sg1	**5,8E+05**	***5,763***
6	15	Paris 2	NC	J3	9,0E+03	Lp 2-14	**8,5E+03**	***3,929***	1,5E+03	Lp 2-14	**1,5E+03**	***3,176***	2,1E+03	Lp sg2-15	**2,0E+03**	***3,301***	2,0E+03	Lp sg2-15	**2,0E+03**	***3,301***
				J5	9,3E+03	Lp 2-14	**8,8E+03**	***3,944***	1,5E+03	Lp 2-14	**1,5E+03**	***3,176***	2,2E+03	Lp sg2-15	**2,0E+03**	***3,301***	2,1E+03	Lp sg2-15	**2,1E+03**	***3,322***
				J8	9,3E+03	Lp 2-14	**8,8E+03**	***3,944***	1,6E+03	Lp 2-14	**1,6E+03**	***3,204***	2,2E+03	Lp sg2-15	**2,0E+03**	***3,301***	2,1E+03	Lp sg2-15	**2,1E+03**	***3,322***
				J10	9,3E+03	Lp 2-14	**8,8E+03**	***3,944***	1,6E+03	Lp 2-14	**1,6E+03**	***3,204***	2,2E+03	Lp sg2-15	**2,0E+03**	***3,301***	2,1E+03	Lp sg2-15	**2,1E+03**	***3,322***
7	16	Paris 14	LEG.1.1	J3	1,3E+05	Lp sg1	**1,3E+05**	***5,114***	1,9E+05	Lp sg1	**1,9E+05**	***5,279***	2,0E+05	Lp sg1	**2,0E+05**	***5,301***	1,8E+05	Lp sg1	**1,8E+05**	***5,255***
				J5	2,9E+05	Lp sg1	**2,4E+05**	***5,380***	1,9E+05	Lp sg1	**1,9E+05**	***5,279***	3,6E+05	Lp sg1	**3,6E+05**	***5,556***	2,2E+05	Lp sg1	**2,2E+05**	***5,342***
				J8	2,9E+05	Lp sg1	**2,4E+05**	***5,380***	1,9E+05	Lp sg1	**1,9E+05**	***5,279***	3,6E+05	Lp sg1	**3,6E+05**	***5,556***	2,2E+05	Lp sg1	**2,2E+05**	***5,342***
				J10	2,9E+05	Lp sg1	**2,4E+05**	***5,380***	1,9E+05	Lp sg1	**1,9E+05**	***5,279***	3,6E+05	Lp sg1	**3,6E+05**	***5,556***	2,2E+05	Lp sg1	**2,2E+05**	***5,342***
8	17	Mont Louis	LEG.2.1	J3	4,9E+05	Leg spp	**4,9E+05**	***5,690***	4,1E+05	Leg spp	**4,1E+05**	***5,613***	3,8E+05	- *	**3,8E+05**	***5,580***	4,8E+05	- *	**4,8E+05**	***5,681***
				J5	4,9E+05	Leg spp	**4,9E+05**	***5,690***	4,1E+05	Leg spp	**4,1E+05**	***5,613***	3,8E+05	- *	**3,8E+05**	***5,580***	4,8E+05	- *	**4,8E+05**	***5,681***
				J8	4,9E+05	Leg spp	**4,9E+05**	***5,690***	4,3E+05	Leg spp	**4,3E+05**	***5,633***	3,8E+05	- *	**3,8E+05**	***5,580***	4,8E+05	- *	**4,8E+05**	***5,681***
				J10	4,9E+05	Leg spp	**4,9E+05**	***5,690***	4,3E+05	Leg spp	**4,3E+05**	***5,633***	3,8E+05	- *	**3,8E+05**	***5,580***	4,8E+05	- *	**4,8E+05**	***5,681***
9	18	Levallois	LEG.5.1	J3	<250	Leg spp	**<250**	***/***	<250	Leg spp	**<250**	***/***	<250	- *	**<250**	***/***	<250	- *	**<250**	***/***
				J5	3,8E+03	Leg spp	**5,5E+02**	***2,740***	3,5E+03	Leg spp	**4,5E+02**	***2,653***	3,3E+03	- *	**5,0E+02**	***2,699***	3,4E+03	- *	**6,0E+02**	***2,778***
				J8	3,8E+03	Leg spp	**5,5E+02**	***2,740***	3,5E+03	Leg spp	**4,5E+02**	***2,653***	3,3E+03	- *	**5,0E+02**	***2,699***	3,4E+03	- *	**6,0E+02**	***2,778***
				J10	3,8E+03	Leg spp	**5,5E+02**	***2,740***	3,5E+03	Leg spp	**4,5E+02**	***2,653***	3,3E+03	- *	**5,0E+02**	***2,699***	3,5E+03	- *	**6,0E+02**	***2,778***
10	20	Crosne	LEG.5.1	J3	<250	Leg spp	**<250**	***/***	<250	Leg spp	**<250**	***/***	<250	- *	**<250**	***/***	<250	- *	**<250**	***/***
				J5	1,5E+02	Leg spp	**1,5E+02**	***2,176***	8,0E+02	Leg spp	**6,5E+02**	***2,813***	4,0E+02	- *	**4,0E+02**	***2,602***	6,0E+02	- *	**6,0E+02**	***2,778***
				J8	2,5E+02	Leg spp	**2,5E+02**	***2,398***	8,0E+02	Leg spp	**6,5E+02**	***2,813***	4,5E+02	- *	**4,5E+02**	***2,653***	6,0E+02	- *	**6,0E+02**	***2,778***
				J10	2,5E+02	Leg spp	**2,5E+02**	***2,398***	8,0E+02	Leg spp	**6,5E+02**	***2,813***	4,5E+02	- *	**4,5E+02**	***2,653***	6,0E+02	- *	**6,0E+02**	***2,778***

	Eau	Origine	Contamination	Analyse	Méthode de référence ISO 11731 (mai 1998)								Méthode alternative Legionella MWY							
					R1				R2				R1				R2			
					UFC/L	Confirm latex	Résultats confirmés		UFC/L	Confirm latex	Résultats confirmés		UFC/L	Confirm latex	Résultats confirmés		UFC/L	Confirm latex	Résultats confirmés	
							UFC/L	***Log 10 (UFC/L)***			**UFC/L**	***Log 10 (UFC/L)***		Kit Slidex	**UFC/L**	***Log 10 (UFC/L)***		Kit Slidex	**UFC/L**	***Log 10 (UFC/L)***
11	21	Versailles	LEG.19.1	J3	<250	Leg spp	**<250**	/	<250	Leg spp	**<250**	/	<250	- *	**<250**	/	<250	- *	**<250**	/
				J5	2,5E+02	Leg spp	**2,5E+02**	***2,398***	2,5E+02	Leg spp	**2,5E+02**	***2,398***	6,5E+02	- *	**6,5E+02**	***2,813***	4,5E+02	- *	**4,5E+02**	***2,653***
				J8	2,5E+02	Leg spp	**2,5E+02**	***2,398***	2,5E+02	Leg spp	**2,5E+02**	***2,398***	7,5E+02	- *	**7,5E+02**	***2,875***	5,0E+02	- *	**5,0E+02**	***2,699***
				J10	2,5E+02	Leg spp	**2,5E+02**	***2,398***	2,5E+02	Leg spp	**2,5E+02**	***2,398***	7,5E+02	- *	**7,5E+02**	***2,875***	5,0E+02	- *	**5,0E+02**	***2,699***
12	23	Malakoff	LEG.1.14	J3	9,5E+02	Lp 2-14	**7,5E+02**	***2,875***	2,0E+02	Lp 2-14	**2,0E+02**	***2,301***	1,6E+03	Lp sg2-15	**1,6E+03**	***3,204***	5,5E+02	Lp sg2-15	**5,5E+02**	***2,740***
				J5	1,7E+03	Lp 2-14	**1,5E+03**	***3,176***	1,5E+03	Lp 2-14	**1,5E+03**	***3,176***	4,5E+03	Lp sg2-15	**4,4E+03**	***3,643***	1,8E+03	Lp sg2-15	**1,8E+03**	***3,255***
				J8	1,7E+03	Lp 2-14	**1,5E+03**	***3,176***	1,5E+03	Lp 2-14	**1,5E+03**	***3,176***	4,5E+03	Lp sg2-15	**4,4E+03**	***3,643***	1,8E+03	Lp sg2-15	**1,8E+03**	***3,255***
				J10	1,7E+03	Lp 2-14	**1,5E+03**	***3,176***	1,5E+03	Lp 2-14	**1,5E+03**	***3,176***	4,4E+03	Lp sg2-15	**4,3E+03**	***3,633***	1,8E+03	Lp sg2-15	**1,8E+03**	***3,255***
13	24	Elancourt	LEG.1.14	J3	3,0E+02	Lp 2-14	**3,0E+02**	***2,477***	4,5E+02	Lp 2-14	**4,5E+02**	***2,653***	2,5E+02	Lp sg2-15	**1,5E+02**	***2,176***	2,5E+02	Lp sg2-15	**2,5E+02**	***2,398***
				J5	9,5E+02	Lp 2-14	**9,5E+02**	***2,978***	9,0E+02	Lp 2-14	**9,0E+02**	***2,954***	1,0E+03	Lp sg2-15	**9,0E+02**	***2,954***	7,5E+02	Lp sg2-15	**7,5E+02**	***2,875***
				J8	9,5E+02	Lp 2-14	**9,5E+02**	***2,978***	9,0E+02	Lp 2-14	**9,0E+02**	***2,954***	1,1E+03	Lp sg2-15	**1,0E+03**	***3,000***	8,5E+02	Lp sg2-15	**7,5E+02**	***2,875***
				J10	9,5E+02	Lp 2-14	**9,5E+02**	***2,978***	9,0E+02	Lp 2-14	**9,0E+02**	***2,954***	1,1E+03	Lp sg2-15	**1,0E+03**	***3,000***	8,5E+02	Lp sg2-15	**7,5E+02**	***2,875***
14	25	Massy	LEG.1.14	J3	9,5E+02	Lp 2-14	**9,5E+02**	***2,978***	9,0E+02	Lp 2-14	**9,0E+02**	***2,954***	1,9E+03	Lp sg2-15	**1,9E+03**	***3,279***	2,2E+03	Lp sg2-15	**2,1E+03**	***3,322***
				J5	7,5E+03	Lp 2-14	**7,5E+03**	***3,875***	2,5E+04	Lp 2-14	**2,5E+04**	***4,398***	1,8E+04	Lp sg2-15	**1,8E+04**	***4,255***	2,5E+04	Lp sg2-15	**2,5E+04**	***4,398***
				J8	8,0E+03	Lp 2-14	**8,0E+03**	***3,903***	2,5E+04	Lp 2-14	**2,5E+04**	***4,398***	2,5E+04	Lp sg2-15	**2,5E+04**	***4,398***	2,5E+04	Lp sg2-15	**2,5E+04**	***4,398***
				J10	8,0E+03	Lp 2-14	**8,0E+03**	***3,903***	2,5E+04	Lp 2-14	**2,5E+04**	***4,398***	2,5E+04	Lp sg2-15	**1,8E+04**	***4,255***	2,5E+04	Lp sg2-15	**2,5E+04**	***4,398***
15	30	Alfortville	LEG.1.6	J3	4,5E+04	Lp 2-14	**4,5E+04**	***4,653***	2,8E+03	Lp 2-14	**2,8E+03**	***3,447***	6,0E+04	Lp sg2-15	**6,0E+04**	***4,778***	7,0E+04	Lp sg2-15	**7,0E+04**	***4,845***
				J5	5,5E+04	Lp 2-14	**5,5E+04**	***4,740***	4,0E+04	Lp 2-14	**4,0E+04**	***4,602***	6,0E+04	Lp sg2-15	**6,0E+04**	***4,778***	7,0E+04	Lp sg2-15	**7,0E+04**	***4,845***
				J8	6,0E+04	Lp 2-14	**6,0E+04**	***4,778***	5,0E+04	Lp 2-14	**5,0E+04**	***4,699***	6,0E+04	Lp sg2-15	**6,0E+04**	***4,778***	7,0E+04	Lp sg2-15	**7,0E+04**	***4,845***
				J10	6,0E+04	Lp 2-14	**6,0E+04**	***4,778***	5,5E+04	Lp 2-14	**5,5E+04**	***4,740***	6,0E+04	Lp sg2-15	**6,0E+04**	***4,778***	7,0E+04	Lp sg2-15	**7,0E+04**	***4,845***
16	31	Longjumeau	LEG.1.4	J3	6,5E+04	Lp 2-14	**6,5E+04**	***4,813***	6,0E+04	Lp 2-14	**5,5E+04**	***4,740***	6,5E+04	Lp sg2-15	**6,5E+04**	***4,813***	1,2E+05	Lp sg2-15	**1,1E+05**	***5,041***
				J5	6,5E+04	Lp 2-14	**6,5E+04**	***4,813***	6,5E+04	Lp 2-14	**6,0E+04**	***4,778***	7,5E+04	Lp sg2-15	**7,5E+04**	***4,875***	1,2E+05	Lp sg2-15	**1,1E+05**	***5,041***
				J8	6,5E+04	Lp 2-14	**6,5E+04**	***4,813***	6,5E+04	Lp 2-14	**6,0E+04**	***4,778***	7,5E+04	Lp sg2-15	**7,5E+04**	***4,875***	1,2E+05	Lp sg2-15	**1,2E+05**	***5,079***
				J10	6,5E+04	Lp 2-14	**6,5E+04**	***4,813***	6,5E+04	Lp 2-14	**6,0E+04**	***4,778***	7,5E+04	Lp sg2-15	**7,5E+04**	***4,875***	1,2E+05	Lp sg2-15	**1,2E+05**	***5,079***
17	32	Lieusaint	LEG.1.4	J3	1,0E+02	Lp 2-14	**1,0E+02**	***2,000***	1,0E+02	Lp 2-14	**1,0E+02**	***2,000***	2,0E+02	Lp sg2-15	**2,0E+02**	***2,301***	5,0E+01	Lp sg2-15	**5,0E+01**	***1,699***
				J5	1,0E+02	Lp 2-14	**1,0E+02**	***2,000***	1,0E+02	Lp 2-14	**1,0E+02**	***2,000***	2,0E+02	Lp sg2-15	**2,0E+02**	***2,301***	5,0E+01	Lp sg2-15	**5,0E+01**	***1,699***
				J8	1,0E+02	Lp 2-14	**1,0E+02**	***2,000***	1,0E+02	Lp 2-14	**1,0E+02**	***2,000***	2,0E+02	Lp sg2-15	**2,0E+02**	***2,301***	5,0E+01	Lp sg2-15	**5,0E+01**	***1,699***
				J10	1,0E+02	Lp 2-14	**1,0E+02**	***2,000***	1,0E+02	Lp 2-14	**1,0E+02**	***2,000***	2,0E+02	Lp sg2-15	**2,0E+02**	***2,301***	5,0E+01	Lp sg2-15	**5,0E+01**	***1,699***
18	33	Rungis	LEG.1.6	J3	4,5E+04	Lp 2-14	**00:00**	***4,653***	7,5E+04	Lp 2-14	**7,5E+04**	***4,875***	7,0E+04	Lp sg2-15	**7,0E+04**	***4,845***	5,5E+04	Lp sg2-15	**5,5E+04**	***4,740***
				J5	5,5E+04	Lp 2-14	**5,5E+04**	***4,740***	1,1E+05	Lp 2-14	**1,1E+05**	***5,041***	9,0E+04	Lp sg2-15	**9,0E+04**	***4,954***	5,5E+04	Lp sg2-15	**5,5E+04**	***4,740***
				J8	7,0E+04	Lp 2-14	**7,0E+04**	***4,845***	1,1E+05	Lp 2-14	**1,1E+05**	***5,041***	9,0E+04	Lp sg2-15	**9,0E+04**	***4,954***	5,5E+04	Lp sg2-15	**5,5E+04**	***4,740***
				J10	7,0E+04	Lp 2-14	**7,0E+04**	***4,845***	1,1E+05	Lp 2-14	**1,1E+05**	***5,041***	9,0E+04	Lp sg2-15	**9,0E+04**	***4,954***	5,5E+04	Lp sg2-15	**5,5E+04**	***4,740***
19	34	Morlant	LEG.1.6	J3	3,5E+03	Lp 2-14	**3,5E+03**	***3,544***	3,5E+03	Lp 2-14	**3,5E+03**	***3,544***	2,4E+03	Lp sg2-15	**2,4E+03**	***3,380***	2,1E+03	Lp sg2-15	**2,1E+03**	***3,322***
				J5	4,7E+03	Lp 2-14	**4,7E+03**	***3,672***	5,1E+03	Lp 2-14	**5,1E+03**	***3,708***	3,4E+03	Lp sg2-15	**3,4E+03**	***3,531***	2,6E+03	Lp sg2-15	**2,6E+03**	***3,415***
				J8	5,0E+03	Lp 2-14	**5,0E+03**	***3,699***	5,3E+03	Lp 2-14	**5,3E+03**	***3,724***	3,7E+03	Lp sg2-15	**3,7E+03**	***3,568***	2,9E+03	Lp sg2-15	**2,9E+03**	***3,462***
				J10	5,0E+03	Lp 2-14	**5,0E+03**	***3,699***	5,3E+03	Lp 2-14	**5,3E+03**	***3,724***	3,7E+03	Lp sg2-15	**3,7E+03**	***3,568***	3,0E+03	Lp sg2-15	**3,0E+03**	***3,477***
20	29	Colombes	LEG.1.6	J3	5,3E+03	Lp 2-14	**5,3E+03**	***3,724***	1,3E+05	Lp 2-14	**1,3E+05**	***5,114***	4,8E+05	Lp sg2-15	**4,8E+05**	***5,681***	1,4E+05	Lp sg2-15	**1,4E+05**	***5,146***
				J5	6,9E+05	Lp 2-14	**6,9E+05**	***5,839***	1,3E+05	Lp 2-14	**1,3E+05**	***5,114***	5,8E+05	Lp sg2-15	**5,8E+05**	***5,763***	1,5E+05	Lp sg2-15	**1,5E+05**	***5,176***
				J8	6,9E+05	Lp 2-14	**6,9E+05**	***5,839***	1,3E+05	Lp 2-14	**1,3E+05**	***5,114***	5,8E+05	Lp sg2-15	**5,8E+05**	***5,763***	1,6E+05	Lp sg2-15	**1,6E+05**	***5,204***
				J10	6,9E+05	Lp 2-14	**6,9E+05**	***5,839***	1,3E+05	Lp 2-14	**1,3E+05**	***5,114***	5,8E+05	Lp sg2-15	**5,8E+05**	***5,763***	1,6E+05	Lp sg2-15	**1,6E+05**	***5,204***

* : Colonies testées avec le kit Slidex donnant un résultat négatif puis avec le kit Oxoid donnant pour résultats: Leg spp

Exactitude relative - Legionella spp - Eaux chaudes sanitaires - J10 MR / J5 MA

Méthode de référence					Méthode alternative					Différence
Echantillon	Répétition 1	Répétition 2	M	SD	Echantillon	Répétition 1	Répétition 2	M	SD	
1	1,699	2,301	2,000	0,426	1	1,690	2,477	2,084	0,556	0,084
2	2,000	1,699	1,849	0,213	2	2,176	1,699	1,938	0,337	0,088
3	2,176	2,000	2,088	0,125	3	2,398	2,000	2,199	0,281	0,111
4	5,690	5,633	5,662	0,040	4	5,580	5,699	5,639	0,084	-0,022
5	5,681	5,681	5,681	0,000	5	5,653	5,763	5,708	0,078	0,027
6	3,944	3,204	3,574	0,524	6	3,301	3,322	3,312	0,015	-0,263
7	5,380	5,279	5,329	0,072	7	5,556	5,342	5,449	0,151	0,120
8	5,690	5,633	5,662	0,040	8	5,580	5,681	5,631	0,072	-0,031
9	2,740	2,653	2,697	0,062	9	2,699	2,778	2,739	0,056	0,042
10	2,398	2,813	2,605	0,293	10	2,602	2,778	2,690	0,125	0,085
11	2,398	2,398	2,398	0,000	11	2,813	2,653	2,733	0,113	0,335
12	3,176	3,176	3,176	0,000	12	3,643	3,255	3,449	0,274	0,273
13	2,978	2,954	2,966	0,017	13	2,954	2,875	2,915	0,056	-0,051
14	3,903	4,398	4,151	0,350	14	4,255	4,398	4,327	0,101	0,176
15	4,778	4,740	4,759	0,027	15	4,778	4,845	4,812	0,047	0,052
16	4,813	4,778	4,796	0,025	16	4,875	5,041	4,958	0,118	0,163
17	2,000	2,000	2,000	0,000	17	2,301	1,699	2,000	0,426	0,000
18	4,845	5,041	4,943	0,139	18	4,954	4,740	4,847	0,151	-0,096
19	3,699	3,724	3,712	0,018	19	3,531	3,415	3,473	0,082	-0,238
20	5,839	5,114	5,476	0,513	20	5,763	5,176	5,470	0,415	-0,007

q= 20
n= 2
N=qn= 40

Mx= 3,776
MEDx= 3,643
SDbx= 1,413
MEDwx = 0,051
SDwx= 0,226
rob. SDwx= 0,075

My= 3,819
MEDy= 3,461
SDby= 1,388
MEDwy = 0,115
SDwy= 0,231
rob. SDwy= 0,171

M= 0,042
MED= 0,047
Biais

Choix de la méthode
OLS1

R= 1,021
rob. R= 2,266

Sx= 1,404
Sy= 1,380

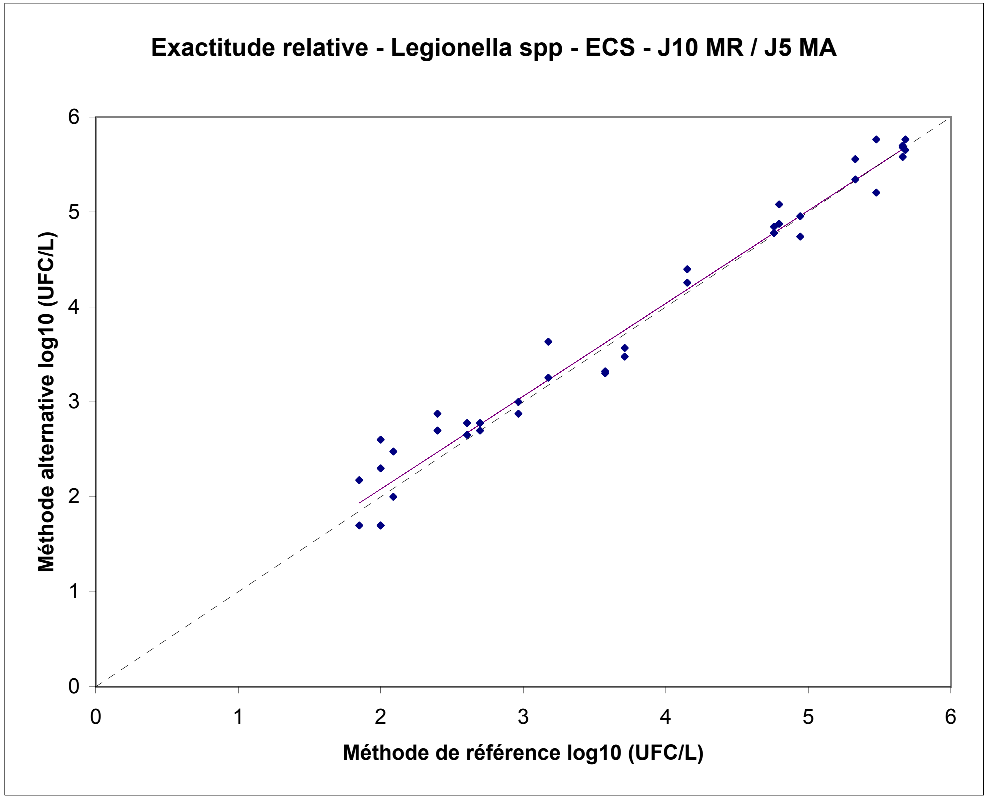
r= 0,995
b= 0,978
a= 0,127

Res. SD= 0,228

S(b)= 0,026 **p(t;b=1)=** 0,394 **t(b)=** 0,862
S(a)= 0,105 **p(t;a=0)=** 0,232 **t(a)=** 1,214

Répétabilité	Méthode de référence	Méthode alternative
r	0,633	0,646
rob. r	0,211	0,479

Mx	Alt	Est Y	Déviation
2,000	1,699	2,082	-0,383
1,849	2,176	1,935	0,241
2,088	2,477	2,168	0,309
5,662	5,580	5,662	-0,082
5,681	5,653	5,681	-0,028
3,574	3,301	3,621	-0,320
5,329	5,556	5,337	0,219
5,662	5,580	5,662	-0,082
2,697	2,699	2,763	-0,064
2,605	2,653	2,674	-0,021
2,398	2,875	2,471	0,404
3,176	3,633	3,232	0,402
2,966	3,000	3,026	-0,026
4,151	4,255	4,184	0,071
4,759	4,778	4,780	-0,001
4,796	4,875	4,815	0,060
2,000	2,301	2,082	0,219
4,943	4,954	4,959	-0,005
3,712	3,568	3,755	-0,187
5,476	5,763	5,481	0,283
2,000	2,602	2,082	0,520
1,849	1,699	1,935	-0,236
2,088	2,000	2,168	-0,168
5,662	5,699	5,662	0,037
5,681	5,763	5,681	0,083
3,574	3,322	3,621	-0,299
5,329	5,342	5,337	0,005
5,662	5,681	5,662	0,019
2,697	2,778	2,763	0,015
2,605	2,778	2,674	0,104
2,398	2,699	2,471	0,228
3,176	3,255	3,232	0,023
2,966	2,875	3,026	-0,151
4,151	4,398	4,184	0,213
4,759	4,845	4,780	0,066
4,796	5,079	4,815	0,264
2,000	1,699	2,082	-0,383
4,943	4,740	4,959	-0,219
3,712	3,477	3,755	-0,278
5,476	5,204	5,481	-0,277



abscisse = moyenne des répétitions pour chaque échantillon.
ordonnée = données brutes des répétitions pour chaque

Exactitude relative - Legionella spp - Eaux chaudes sanitaires - J10 MR / J8 MA

Méthode de référence					Méthode alternative						Différence
Echantillon	Répétition 1	Répétition 2	M	SD	Echantillon	Répétition 1	Répétition 2	M	SD		
1	1,699	2,301	2,000	0,426	1	1,699	2,602	2,151	0,639		0,151
2	2,000	1,699	1,849	0,213	2	2,176	1,699	1,938	0,337		0,088
3	2,176	2,000	2,088	0,125	3	2,477	2,000	2,239	0,337		0,151
4	5,690	5,633	5,662	0,040	4	5,580	5,699	5,639	0,084		-0,022
5	5,681	5,681	5,681	0,000	5	5,653	5,763	5,708	0,078		0,027
6	3,944	3,204	3,574	0,524	6	3,301	3,322	3,312	0,015		-0,263
7	5,380	5,279	5,329	0,072	7	5,556	5,342	5,449	0,151		0,120
8	5,690	5,633	5,662	0,040	8	5,580	5,681	5,631	0,072		-0,031
9	2,740	2,653	2,697	0,062	9	2,699	2,778	2,739	0,056		0,042
10	2,398	2,813	2,605	0,293	10	2,653	2,778	2,716	0,088		0,110
11	2,398	2,398	2,398	0,000	11	2,875	2,699	2,787	0,125		0,389
12	3,176	3,176	3,176	0,000	12	3,643	3,255	3,449	0,274		0,273
13	2,978	2,954	2,966	0,017	13	3,000	2,875	2,938	0,088		-0,028
14	3,903	4,398	4,151	0,350	14	4,398	4,398	4,398	0,000		0,247
15	4,778	4,740	4,759	0,027	15	4,778	4,845	4,812	0,047		0,052
16	4,813	4,778	4,796	0,025	16	4,875	5,079	4,977	0,144		0,182
17	2,000	2,000	2,000	0,000	17	2,301	1,699	2,000	0,426		0,000
18	4,845	5,041	4,943	0,139	18	4,954	4,740	4,847	0,151		-0,096
19	3,699	3,724	3,712	0,018	19	3,568	3,462	3,515	0,075		-0,196
20	5,839	5,114	5,476	0,513	20	5,763	5,204	5,484	0,395		0,007

q= 20
n= 2
N=qn= 40

Mx= 3,776
MEDx= 3,643
SDbx= 1,413
MEDwx = 0,051
SDwx= 0,226
rob. SDwx= 0,075

My= 3,836
MEDy= 3,482
SDby= 1,379
MEDwy = 0,106
SDwy= 0,242
rob. SDwy= 0,158

M= 0,060
MED= 0,047
Biais

Choix de la méthode
OLS1

R= 1,073
rob. R= 2,092

Sx= 1,404
Sy= 1,373

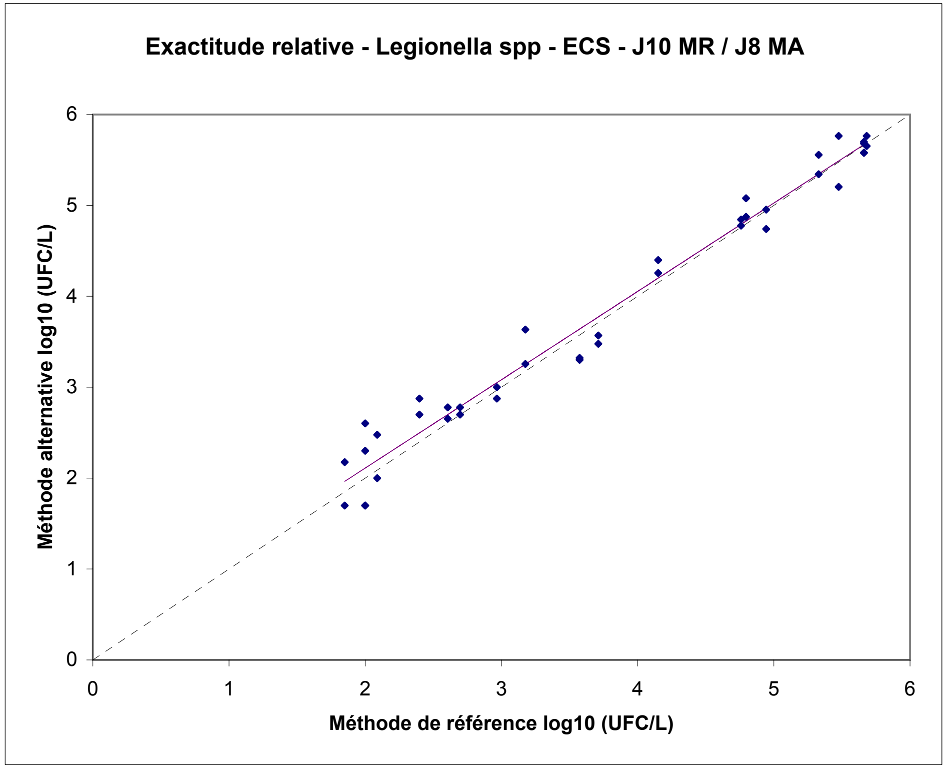
r= 0,994
b= 0,972
a= 0,166

Res. SD= 0,227

S(b)= 0,026 **p(t;b=1)=** 0,288 **t(b)=** 1,078
S(a)= 0,104 **p(t;a=0)=** 0,120 **t(a)=** 1,589

Répétabilité	Méthode de référence	Méthode alternative
r	0,633	0,679
rob. r	0,211	0,442

Mx	Alt	Est Y	Déviation
2,000	1,699	2,110	-0,411
1,849	2,176	1,963	0,213
2,088	2,477	2,195	0,282
5,662	5,580	5,669	-0,089
5,681	5,653	5,688	-0,035
3,574	3,301	3,640	-0,339
5,329	5,556	5,346	0,210
5,662	5,580	5,669	-0,089
2,697	2,699	2,787	-0,088
2,605	2,653	2,698	-0,045
2,398	2,875	2,497	0,379
3,176	3,633	3,253	0,381
2,966	3,000	3,049	-0,049
4,151	4,255	4,200	0,055
4,759	4,778	4,792	-0,014
4,796	4,875	4,827	0,048
2,000	2,301	2,110	0,191
4,943	4,954	4,971	-0,016
3,712	3,568	3,774	-0,205
5,476	5,763	5,489	0,274
2,000	2,602	2,110	0,492
1,849	1,699	1,963	-0,264
2,088	2,000	2,195	-0,195
5,662	5,699	5,669	0,030
5,681	5,763	5,688	0,075
3,574	3,322	3,640	-0,318
5,329	5,342	5,346	-0,004
5,662	5,681	5,669	0,012
2,697	2,778	2,787	-0,009
2,605	2,778	2,698	0,080
2,398	2,699	2,497	0,202
3,176	3,255	3,253	0,002
2,966	2,875	3,049	-0,174
4,151	4,398	4,200	0,198
4,759	4,845	4,792	0,053
4,796	5,079	4,827	0,252
2,000	1,699	2,110	-0,411
4,943	4,740	4,971	-0,230
3,712	3,477	3,774	-0,296
5,476	5,204	5,489	-0,285



abscisse = moyenne des répétitions pour chaque échantillon.
ordonnée = données brutes des répétitions pour chaque

Exactitude relative - Legionella spp - Eaux chaudes sanitaires - J10 MR et J10 MA

Méthode de référence					Méthode alternative					Différence
Echantillon	Répétition 1	Répétition 2	M	SD	Echantillon	Répétition 1	Répétition 2	M	SD	
1	1,699	2,301	2,000	0,426	1	1,699	2,602	2,151	0,639	0,151
2	2,000	1,699	1,849	0,213	2	2,176	1,699	1,938	0,337	0,088
3	2,176	2,000	2,088	0,125	3	2,477	2,000	2,239	0,337	0,151
4	5,690	5,633	5,662	0,040	4	5,580	5,699	5,639	0,084	-0,022
5	5,681	5,681	5,681	0,000	5	5,653	5,763	5,708	0,078	0,027
6	3,944	3,204	3,574	0,524	6	3,301	3,322	3,312	0,015	-0,263
7	5,380	5,279	5,329	0,072	7	5,556	5,342	5,449	0,151	0,120
8	5,690	5,633	5,662	0,040	8	5,580	5,681	5,631	0,072	-0,031
9	2,740	2,653	2,697	0,062	9	2,699	2,778	2,739	0,056	0,042
10	2,398	2,813	2,605	0,293	10	2,653	2,778	2,716	0,088	0,110
11	2,398	2,398	2,398	0,000	11	2,875	2,699	2,787	0,125	0,389
12	3,176	3,176	3,176	0,000	12	3,633	3,255	3,444	0,267	0,268
13	2,978	2,954	2,966	0,017	13	3,000	2,875	2,938	0,088	-0,028
14	3,903	4,398	4,151	0,350	14	4,255	4,398	4,327	0,101	0,176
15	4,778	4,740	4,759	0,027	15	4,778	4,845	4,812	0,047	0,052
16	4,813	4,778	4,796	0,025	16	4,875	5,079	4,977	0,144	0,182
17	2,000	2,000	2,000	0,000	17	2,301	1,699	2,000	0,426	0,000
18	4,845	5,041	4,943	0,139	18	4,954	4,740	4,847	0,151	-0,096
19	3,699	3,724	3,712	0,018	19	3,568	3,477	3,523	0,064	-0,189
20	5,839	5,114	5,476	0,513	20	5,763	5,204	5,484	0,395	0,007

q= 20
n= 2
N=qn= 40

Mx= 3,776
MEDx= 3,643
SDbx= 1,413
MEDwx = 0,051
SDwx= 0,226
rob. SDwx= 0,075

My= 3,833
MEDy= 3,484
SDby= 1,378
MEDwy = 0,113
SDwy= 0,243
rob. SDwy= 0,167

M= 0,057
MED= 0,047
Biais

Choix de la méthode
OLS1

R= 1,075
rob. R= 2,215

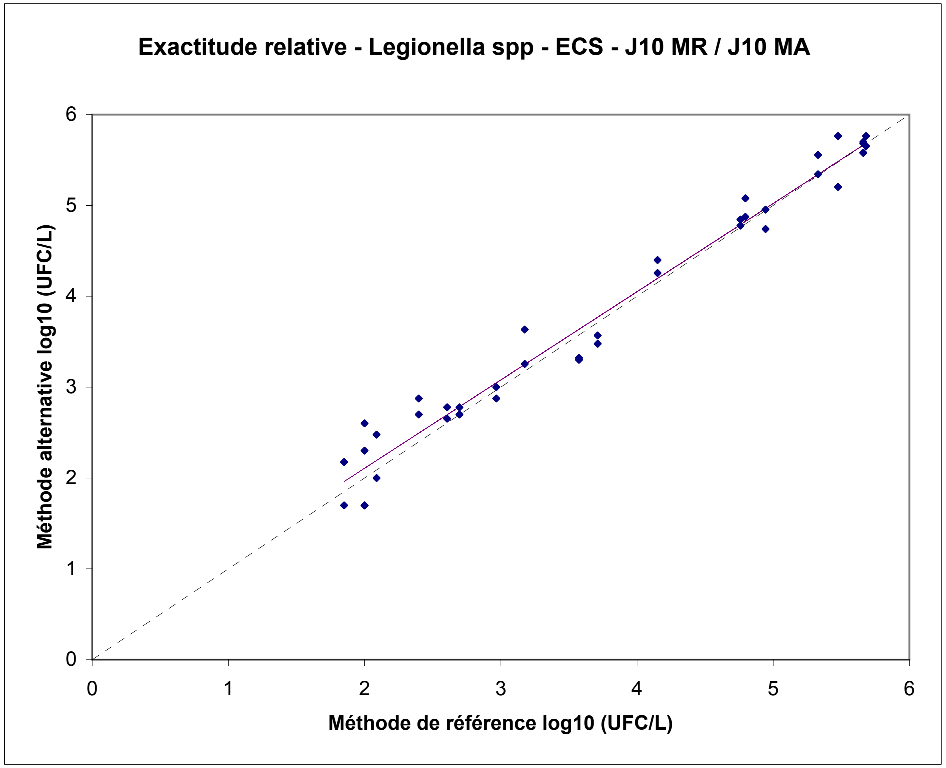
Sx= 1,404
Sy= 1,371

r= 0,995
b= 0,971
a= 0,164
Res. SD= 0,227

S(b)= 0,026 **p(t;b=1)=** 0,278 **t(b)=** 1,101
S(a)= 0,104 **p(t;a=0)=** 0,123 **t(a)=** 1,577

Répétabilité	Méthode de référence	Méthode alternative
r	0,633	0,680
rob. r	0,211	0,468

Mx	Alt	Est Y	Déviation
2,000	1,699	2,107	-0,408
1,849	2,176	1,961	0,215
2,088	2,477	2,193	0,284
5,662	5,580	5,665	-0,085
5,681	5,653	5,684	-0,030
3,574	3,301	3,637	-0,336
5,329	5,556	5,342	0,214
5,662	5,580	5,665	-0,085
2,697	2,699	2,784	-0,085
2,605	2,653	2,695	-0,042
2,398	2,875	2,494	0,381
3,176	3,633	3,250	0,384
2,966	3,000	3,046	-0,046
4,151	4,255	4,196	0,059
4,759	4,778	4,788	-0,010
4,796	4,875	4,823	0,052
2,000	2,301	2,107	0,194
4,943	4,954	4,967	-0,012
3,712	3,568	3,770	-0,202
5,476	5,763	5,485	0,279
2,000	2,602	2,107	0,495
1,849	1,699	1,961	-0,262
2,088	2,000	2,193	-0,193
5,662	5,699	5,665	0,034
5,681	5,763	5,684	0,080
3,574	3,322	3,637	-0,314
5,329	5,342	5,342	0,001
5,662	5,681	5,665	0,017
2,697	2,778	2,784	-0,006
2,605	2,778	2,695	0,083
2,398	2,699	2,494	0,205
3,176	3,255	3,250	0,005
2,966	2,875	3,046	-0,171
4,151	4,398	4,196	0,201
4,759	4,845	4,788	0,057
4,796	5,079	4,823	0,256
2,000	1,699	2,107	-0,408
4,943	4,740	4,967	-0,226
3,712	3,477	3,770	-0,293
5,476	5,204	5,485	-0,280



<u>abscisse</u> = moyenne des répétitions pour chaque échantillon.
<u>ordonnée</u> = données brutes des répétitions pour chaque

Relative accuracy - Cooling tower waters

	Eau	Origine	Contamination	Analyse	Méthode de référence ISO 11731 (mai 1998)								Méthode alternative Legionella MWY							
					R1				R2				R1				R2			
					UFC/L	Confirm latex	Résultats confirmés UFC/L	Résultats confirmés Log 10 (UFC/L)	UFC/L	Confirm latex	Résultats confirmés UFC/L	Résultats confirmés Log 10 (UFC/L)	UFC/L	Confirm latex	Résultats confirmés UFC/L	Résultats confirmés Log 10 (UFC/L)	UFC/L	Confirm latex	Résultats confirmés UFC/L	Résultats confirmés Log 10 (UFC/L)
1	9	Saint Denis	NC	J3	4,00E+04	Lp 2-14	5,00E+02	2,7	4,00E+04	Lp 2-14	5,00E+02	2,7	2,40E+03	Lp sg2-15	5,00E+02	2,7	5,50E+04	Lp sg2-15	1,50E+02	2,2
				J5	4,00E+04	Lp 2-14	5,00E+02	2,7	4,00E+04	Lp 2-14	5,00E+02	2,7	3,00E+04	Lp sg2-15	5,00E+02	2,7	6,50E+04	Lp sg2-15	1,50E+02	2,2
				J8	4,00E+04	Lp 2-14	5,00E+02	2,7	4,00E+04	Lp 2-14	5,00E+02	2,7	3,00E+04	Lp sg2-15	5,00E+02	2,7	6,50E+04	Lp sg2-15	1,50E+02	2,2
				J10	4,00E+04	Lp 2-14	5,00E+02	2,7	4,00E+04	Lp 2-14	5,00E+02	2,7	3,00E+04	Lp sg2-15	5,00E+02	2,7	6,50E+04	Lp sg2-15	1,50E+02	2,2
2	10	Paris 2	LEG.1.2	J3	1,10E+04	Lp 2-14	1,10E+04	4,0	2,50E+04	Lp 2-14	2,50E+04	4,4	3,50E+04	Lp sg2-15	3,50E+04	4,5	3,00E+04	Lp sg2-15	3,00E+04	4,5
				J5	1,10E+04	Lp 2-14	1,10E+04	4,0	2,50E+04	Lp 2-14	2,50E+04	4,4	3,50E+04	Lp sg2-15	3,50E+04	4,5	3,00E+04	Lp sg2-15	3,00E+04	4,5
				J8	1,10E+04	Lp 2-14	1,10E+04	4,0	2,50E+04	Lp 2-14	2,50E+04	4,4	3,50E+04	Lp sg2-15	3,50E+04	4,5	3,00E+04	Lp sg2-15	3,00E+04	4,5
				J10	1,10E+04	Lp 2-14	1,10E+04	4,0	2,50E+04	Lp 2-14	2,50E+04	4,4	3,50E+04	Lp sg2-15	3,50E+04	4,5	3,00E+04	Lp sg2-15	3,00E+04	4,5
3	11	Paris 8	NC	J3	5,60E+05	Lp sg1	5,60E+05	5,7	6,50E+05	Lp sg1	6,50E+05	5,8	7,70E+05	Lp sg1	7,70E+05	5,9	7,60E+05	Lp sg1	7,60E+05	5,9
				J5	7,10E+05	Lp sg1	7,10E+05	5,9	7,20E+05	Lp sg1	7,20E+05	5,9	9,60E+05	Lp sg1	9,60E+05	6,0	7,80E+05	Lp sg1	7,80E+05	5,9
				J8	7,20E+05	Lp sg1	7,20E+05	5,9	7,20E+05	Lp sg1	7,20E+05	5,9	9,60E+05	Lp sg1	9,60E+05	6,0	8,40E+05	Lp sg1	8,40E+05	5,9
				J10	7,30E+05	Lp sg1	7,30E+05	5,9	7,20E+05	Lp sg1	7,20E+05	5,9	9,60E+05	Lp sg1	9,60E+05	6,0	8,40E+05	Lp sg1	8,40E+05	5,9
4	14	Velizy	NC	J3	1,20E+03	Lp 2-14	1,20E+03	3,1	1,60E+03	Lp 2-14	1,60E+03	3,2	6,00E+02	Lp sg2-15	5,00E+02	2,7	7,00E+02	Lp sg2-15	6,00E+02	2,8
				J5	1,20E+03	Lp 2-14	1,20E+03	3,1	1,60E+03	Lp 2-14	1,60E+03	3,2	6,00E+02	Lp sg2-15	5,00E+02	2,7	7,00E+02	Lp sg2-15	6,00E+02	2,8
				J8	1,20E+03	Lp 2-14	1,20E+03	3,1	1,60E+03	Lp 2-14	1,60E+03	3,2	6,00E+02	Lp sg2-15	5,00E+02	2,7	7,00E+02	Lp sg2-15	6,00E+02	2,8
				J10	1,20E+03	Lp 2-14	1,20E+03	3,1	1,60E+03	Lp 2-14	1,60E+03	3,2	6,00E+02	Lp sg2-15	5,00E+02	2,7	7,00E+02	Lp sg2-15	6,00E+02	2,8
5	18	Clichy	*LEG.3.1*	J3	7,00E+02	Leg spp	<500	/	8,00E+02	Leg spp	1,00E+02	3,3	4,00E+02	Leg anisa	<500	/	8,00E+02	Leg anisa	8,00E+02	/
				J5	7,00E+02	Leg spp	1,00E+02	2,0	4,00E+05	Leg spp	1,00E+02	3,3	6,00E+02	Leg anisa	4,00E+02	2,6	1,10E+03	Leg anisa	1,10E+03	3,0
				J8	4,60E+03	Leg spp	4,00E+02	2,6	4,00E+05	Leg spp	3,80E+03	3,3	6,00E+02	Leg anisa	4,00E+02	2,6	1,20E+03	Leg anisa	1,20E+03	3,1
				J10	4,60E+03	Leg spp	4,00E+02	2,6	4,00E+05	Leg spp	5,20E+03	3,4	6,00E+02	Leg anisa	4,00E+02	2,6	1,20E+03	Leg anisa	1,20E+03	3,1
6	20	Velizy	*LEG.3.1*	J3	2,00E+04	Leg spp	<250	/	3,00E+02	Leg spp	<250	/	1,00E+04	Leg anisa	1,00E+04	4,0	5,00E+01	Leg anisa	<250	/
				J5	1,80E+05	Leg spp	1,80E+05	5,3	1,50E+05	Leg spp	1,40E+04	4,1	8,60E+04	Leg anisa	8,60E+04	4,9	8,50E+04	Leg anisa	8,50E+04	4,9
				J8	1,90E+05	Leg spp	1,90E+05	5,3	1,50E+05	Leg spp	1,40E+04	4,1	9,10E+04	Leg anisa	9,10E+04	5,0	8,50E+04	Leg anisa	8,50E+04	4,9
				J10	1,90E+05	Leg spp	1,90E+05	5,3	1,50E+05	Leg spp	1,40E+05	5,1	9,10E+04	Leg anisa	9,10E+04	5,0	8,50E+04	Leg anisa	8,50E+04	4,9
7	21	Courbevoie	*LEG.1.1*	J3	1,10E+05	Lp sg1	1,10E+05	5,0	8,00E+05	Lp sg1	8,00E+05	5,9	3,00E+05	Lp sg1	3,00E+05	5,5	8,00E+05	Lp sg1	8,00E+05	5,9
				J5	5,00E+05	Lp sg1	5,00E+05	5,7	1,00E+06	Lp sg1	1,00E+06	6,0	5,00E+05	Lp sg1	5,00E+05	5,7	1,80E+06	Lp sg1	1,80E+06	6,3
				J8	5,10E+05	Lp sg1	5,10E+05	5,7	1,20E+06	Lp sg1	1,20E+06	6,1	5,90E+05	Lp sg1	5,90E+05	5,8	1,80E+06	Lp sg1	1,80E+06	6,3
				J10	5,10E+05	Lp sg1	5,10E+05	5,7	1,20E+06	Lp sg1	1,20E+06	6,1	5,90E+05	Lp sg1	5,90E+05	5,8	1,80E+06	Lp sg1	1,80E+06	6,3
8	22	Paris 2	*LEG.1.1*	J3	3,50E+06	Lp sg1	3,50E+06	6,5	3,70E+06	Lp sg1	3,70E+06	6,6	4,90E+06	Lp sg1	4,90E+06	6,7	4,80E+06	Lp sg1	4,80E+06	6,7
				J5	5,20E+06	Lp sg1	5,20E+06	6,7	5,40E+06	Lp sg1	5,40E+06	6,7	5,80E+06	Lp sg1	5,80E+06	6,8	6,90E+06	Lp sg1	6,90E+06	6,8
				J8	5,20E+06	Lp sg1	5,20E+06	6,7	5,40E+06	Lp sg1	5,40E+06	6,7	5,80E+06	Lp sg1	5,80E+06	6,8	6,90E+06	Lp sg1	6,90E+06	6,8
				J10	6,40E+06	Lp sg1	6,40E+06	6,8	5,40E+06	Lp sg1	5,40E+06	6,7	5,80E+06	Lp sg1	5,80E+06	6,8	6,90E+06	Lp sg1	6,90E+06	6,8
9	23	St Denis	LEG.1.1	J3	7,30E+05	Lp sg1	7,30E+05	5,9	8,00E+05	Lp sg1	8,00E+05	5,9	7,60E+05	Lp sg1	7,60E+05	5,9	1,30E+06	Lp sg1	1,30E+06	6,1
				J5	1,20E+06	Lp sg1	1,20E+06	6,1	9,00E+05	Lp sg1	9,00E+05	6,0	8,30E+05	Lp sg1	8,30E+05	5,9	1,40E+06	Lp sg1	1,40E+06	6,1
				J8	1,20E+06	Lp sg1	1,20E+06	6,1	9,00E+05	Lp sg1	9,00E+05	6,0	8,30E+05	Lp sg1	8,30E+05	5,9	1,40E+06	Lp sg1	1,40E+06	6,1
				J10	1,20E+06	Lp sg1	1,20E+06	6,1	9,00E+05	Lp sg1	9,00E+05	6,0	8,30E+05	Lp sg1	8,30E+05	5,9	1,40E+06	Lp sg1	1,40E+06	6,1
10	24	Paris 8	LEG.1.4	J3	2,50E+05	Lp 2-14	2,50E+04	4,4	5,00E+05	Lp 2-14	4,80E+05	5,7	3,90E+05	Lp sg2-15	3,70E+05	5,6	4,00E+05	Lp sg2-15	6,50E+04	4,8
				J5	5,30E+05	Lp 2-14	6,00E+04	4,8	5,20E+05	Lp 2-14	4,80E+05	5,7	3,90E+05	Lp sg2-15	3,70E+05	5,6	4,60E+05	Lp sg2-15	3,60E+05	5,6
				J8	5,30E+05	Lp 2-14	6,00E+04	4,8	5,20E+05	Lp 2-14	4,80E+05	5,7	3,90E+05	Lp sg2-15	3,70E+05	5,6	4,60E+05	Lp sg2-15	3,60E+05	5,6
				J10	5,30E+05	Lp 2-14	6,00E+04	4,8	5,20E+05	Lp 2-14	4,80E+05	5,7	3,90E+05	Lp sg2-15	3,70E+05	5,6	4,60E+05	Lp sg2-15	3,60E+05	5,6

	Eau	Origine	Contamination	Analyse	Méthode de référence ISO 11731 (mai 1998)								Méthode alternative Legionella MWY							
					R1				R2				R1				R2			
					UFC/L	Confirm latex	Résultats confirmés		UFC/L	Confirm latex	Résultats confirmés		UFC/L	Confirm latex	Résultats confirmés		UFC/L	Confirm latex	Résultats confirmés	
							UFC/L	Log 10 (UFC/L)			UFC/L	Log 10 (UFC/L)			UFC/L	Log 10 (UFC/L)			UFC/L	Log 10 (UFC/L)
11	25	Argenteuil	LEG.1.4	J3	2,50E+04	Lp 2-14	2,50E+04	4,4	5,00E+04	Lp 2-14	5,00E+04	4,7	2,50E+04	Lp sg2-15	2,50E+04	4,4	2,50E+04	Lp sg2-15	2,50E+04	4,4
				J5	4,00E+04	Lp 2-14	4,00E+04	4,6	5,00E+04	Lp 2-14	5,00E+04	4,7	2,50E+04	Lp sg2-15	2,50E+04	4,4	5,00E+04	Lp sg2-15	5,00E+04	4,7
				J8	4,00E+04	Lp 2-14	4,00E+04	4,6	6,50E+04	Lp 2-14	6,50E+04	4,8	2,50E+04	Lp sg2-15	2,50E+04	4,4	5,00E+04	Lp sg2-15	5,00E+04	4,7
				J10	4,00E+04	Lp 2-14	4,00E+04	4,6	6,50E+04	Lp 2-14	6,50E+04	4,8	2,50E+04	Lp sg2-15	2,50E+04	4,4	5,00E+04	Lp sg2-15	5,00E+04	4,7
12	26	Rambouillet	LEG.1.4	J3	2,20E+05	Lp 2-14	1,70E+05	5,2	3,40E+05	Lp 2-14	2,90E+05	5,5	5,20E+05	Lp sg2-15	5,00E+05	5,7	3,40E+05	Lp sg2-15	3,30E+05	5,5
				J5	3,50E+05	Lp 2-14	1,80E+05	5,3	5,00E+05	Lp 2-14	4,60E+05	5,7	7,10E+05	Lp sg2-15	6,90E+05	5,8	6,00E+05	Lp sg2-15	5,90E+05	5,8
				J8	3,50E+05	Lp 2-14	1,80E+05	5,3	5,00E+05	Lp 2-14	4,60E+05	5,7	7,10E+05	Lp sg2-15	6,90E+05	5,8	6,00E+05	Lp sg2-15	5,90E+05	5,8
				J10	3,50E+05	Lp 2-14	1,80E+05	5,3	5,00E+05	Lp 2-14	4,60E+05	5,7	7,10E+05	Lp sg2-15	6,90E+05	5,8	6,00E+05	Lp sg2-15	5,90E+05	5,8
13	27	Hansen	LEG.1.6	J3	7,00E+04	Lp 2-14	2,00E+04	4,3	8,00E+04	Lp 2-14	5,00E+03	3,7	3,20E+04	Lp sg2-15	3,00E+04	4,5	8,50E+05	Lp sg2-15	8,50E+05	5,9
				J5	2,10E+06	Lp 2-14	2,10E+06	6,3	7,60E+05	Lp 2-14	7,60E+05	5,9	1,70E+06	Lp sg2-15	1,70E+06	6,2	2,80E+06	Lp sg2-15	2,00E+06	6,3
				J8	2,10E+06	Lp 2-14	2,10E+06	6,3	7,60E+05	Lp 2-14	7,60E+05	5,9	1,70E+06	Lp sg2-15	1,70E+06	6,2	2,80E+06	Lp sg2-15	2,00E+06	6,3
				J10	2,10E+06	Lp 2-14	2,10E+06	6,3	7,60E+05	Lp 2-14	7,60E+05	5,9	1,70E+06	Lp sg2-15	1,70E+06	6,2	2,80E+06	Lp sg2-15	2,00E+06	6,3
14	28	La defense	LEG.1.6	J3	2,20E+03	Lp 2-14	1,00E+03	3,0	5,50E+03	Lp 2-14	3,30E+03	3,5	3,30E+03	Lp sg2-15	<500	/	1,70E+03	Lp sg2-15	8,00E+02	2,9
				J5	1,90E+05	Lp 2-14	1,90E+05	5,3	1,70E+05	Lp 2-14	1,70E+05	5,2	1,50E+05	Lp sg2-15	1,40E+05	5,1	2,10E+05	Lp sg2-15	2,10E+05	5,3
				J8	1,90E+05	Lp 2-14	1,90E+05	5,3	1,70E+05	Lp 2-14	1,70E+05	5,2	1,50E+05	Lp sg2-15	1,40E+05	5,1	2,10E+05	Lp sg2-15	2,10E+05	5,3
				J10	1,90E+05	Lp 2-14	1,90E+05	5,3	1,70E+05	Lp 2-14	1,70E+05	5,2	1,50E+05	Lp sg2-15	1,40E+05	5,1	2,10E+05	Lp sg2-15	2,10E+05	5,3
15	30	Rosny sous bois	LEG.1.5	J3	<500	Lp 2-14	<500	/	2,00E+02	Lp 2-14	2,00E+02	2,3	2,00E+02	Lp sg2-15	2,00E+02	2,3	3,00E+02	Lp sg2-15	3,00E+02	2,5
				J5	1,00E+03	Lp 2-14	1,00E+03	3,0	1,10E+03	Lp 2-14	1,10E+03	3,0	9,00E+02	Lp sg2-15	9,00E+02	3,0	7,00E+02	Lp sg2-15	7,00E+02	2,8
				J8	1,00E+03	Lp 2-14	1,00E+03	3,0	1,10E+03	Lp 2-14	1,10E+03	3,0	9,00E+02	Lp sg2-15	9,00E+02	3,0	7,00E+02	Lp sg2-15	7,00E+02	2,8
				J10	1,00E+03	Lp 2-14	1,00E+03	3,0	1,10E+03	Lp 2-14	1,10E+03	3,0	9,00E+02	Lp sg2-15	9,00E+02	3,0	7,00E+02	Lp sg2-15	7,00E+02	2,8
16	32	TAR B	LEG.1.6	J3	7,40E+03	Lp 2-14	6,80E+03	3,8	7,00E+02	Lp 2-14	2,00E+02	2,3	2,90E+03	Lp sg2-15	2,90E+03	3,5	3,00E+04	Lp sg2-15	3,00E+04	4,5
				J5	6,90E+05	Lp 2-14	6,80E+05	5,8	5,90E+05	Lp 2-14	5,80E+05	5,8	5,50E+05	Lp sg2-15	5,50E+05	5,7	6,40E+05	Lp sg2-15	6,40E+05	5,8
				J8	6,90E+05	Lp 2-14	6,80E+05	5,8	5,90E+05	Lp 2-14	5,80E+05	5,8	5,50E+05	Lp sg2-15	5,50E+05	5,7	6,40E+05	Lp sg2-15	6,40E+05	5,8
				J10	6,90E+05	Lp 2-14	6,80E+05	5,8	5,90E+05	Lp 2-14	5,80E+05	5,8	5,50E+05	Lp sg2-15	5,50E+05	5,7	6,40E+05	Lp sg2-15	6,40E+05	5,8
17	33	T1A R1	LEG.1.6	J3	1,00E+02	Lp 2-14	1,00E+02	2,0	5,00E+02	Lp 2-14	5,00E+02	2,7	<500	Lp sg2-15	<500	/	6,00E+02	Lp sg2-15	6,00E+02	2,8
				J5	1,00E+05	Lp 2-14	9,50E+04	5,0	7,50E+04	Lp 2-14	7,50E+04	4,9	7,50E+04	Lp sg2-15	7,50E+04	4,9	8,50E+04	Lp sg2-15	8,50E+04	4,9
				J8	1,00E+05	Lp 2-14	9,50E+04	5,0	7,50E+04	Lp 2-14	7,50E+04	4,9	7,50E+04	Lp sg2-15	7,50E+04	4,9	8,50E+04	Lp sg2-15	8,50E+04	4,9
				J10	1,00E+05	Lp 2-14	9,50E+04	5,0	7,50E+04	Lp 2-14	7,50E+04	4,9	7,50E+04	Lp sg2-15	7,50E+04	4,9	8,50E+04	Lp sg2-15	8,50E+04	4,9
18	37	Paris 18	LEG.1.14	J3	4,00E+02	Lp 2-14	4,00E+02	2,6	1,00E+02	Lp 2-14	1,00E+02	2,0	3,00E+02	Lp sg2-15	3,00E+02	2,5	5,00E+02	Lp sg2-15	5,00E+02	2,7
				J5	6,00E+02	Lp 2-14	6,00E+02	2,8	6,00E+02	Lp 2-14	6,00E+02	2,8	1,30E+03	Lp sg2-15	1,30E+03	3,1	1,10E+03	Lp sg2-15	1,10E+03	3,0
				J8	6,00E+02	Lp 2-14	6,00E+02	2,8	6,00E+02	Lp 2-14	6,00E+02	2,8	1,30E+03	Lp sg2-15	1,30E+03	3,1	1,20E+03	Lp sg2-15	1,20E+03	3,1
				J10	6,00E+02	Lp 2-14	6,00E+02	2,8	6,00E+02	Lp 2-14	6,00E+02	2,8	1,30E+03	Lp sg2-15	1,30E+03	3,1	1,20E+03	Lp sg2-15	1,20E+03	3,1
19	38	Nanterre	LEG.1.14	J3	6,00E+02	Lp 2-14	6,00E+02	2,8	8,00E+02	Lp 2-14	8,00E+02	2,9	<500	Lp sg2-15	<500	/	<500	Lp sg2-15	<500	/
				J5	1,60E+03	Lp 2-14	1,60E+03	3,2	1,80E+03	Lp 2-14	1,80E+03	3,3	2,00E+03	Lp sg2-15	2,00E+03	3,3	1,80E+03	Lp sg2-15	1,80E+03	3,3
				J8	1,60E+03	Lp 2-14	1,60E+03	3,2	1,80E+03	Lp 2-14	1,80E+03	3,3	2,10E+03	Lp sg2-15	2,10E+03	3,3	2,60E+03	Lp sg2-15	2,60E+03	3,4
				J10	1,60E+03	Lp 2-14	1,60E+03	3,2	1,80E+03	Lp 2-14	1,80E+03	3,3	2,10E+03	Lp sg2-15	2,10E+03	3,3	2,60E+03	Lp sg2-15	2,60E+03	3,4
20	40	Pari 16	LEG.1.12	J3	3,60E+05	Lp 2-14	1,90E+05	5,3	7,80E+05	Lp 2-14	2,50E+04	4,4	5,90E+05	Lp sg2-15	5,00E+03	3,7	6,80E+05	Lp sg2-15	2,50E+04	4,4
				J5	3,60E+05	Lp 2-14	1,90E+05	5,3	7,80E+05	Lp 2-14	3,00E+04	4,5	6,10E+05	Lp sg2-15	4,50E+04	4,7	6,90E+05	Lp sg2-15	3,50E+04	4,5
				J8	3,90E+05	Lp 2-14	2,30E+05	5,4	7,80E+05	Lp 2-14	3,00E+04	4,5	6,10E+05	Lp sg2-15	5,00E+04	4,7	6,90E+05	Lp sg2-15	4,00E+04	4,6
				J10	3,90E+05	Lp 2-14	2,30E+05	5,4	7,80E+05	Lp 2-14	3,00E+04	4,5	6,10E+05	Lp sg2-15	5,00E+04	4,7	6,90E+05	Lp sg2-15	4,00E+04	4,6

Exactitude relative - Legionella spp - Eaux de tours aéro-réfrigérantes J10 MR /J5 MA

Méthode de référence					Méthode alternative					Différence
Echantillon	Répétition 1	Répétition 2	M	SD	Echantillon	Répétition 1	Répétition 2	M	SD	
1	2,699	2,699	2,699	0,000	1	2,699	2,176	2,438	0,370	-0,261
2	4,041	4,398	4,220	0,252	2	4,544	4,477	4,511	0,047	0,291
3	5,863	5,857	5,860	0,004	3	5,982	5,892	5,937	0,064	0,077
4	3,079	3,204	3,142	0,088	4	2,699	2,778	2,739	0,056	-0,403
5	2,602	3,415	3,009	0,575	5	2,602	3,041	2,822	0,311	-0,187
6	5,279	5,146	5,212	0,094	6	4,934	4,929	4,932	0,004	-0,280
7	5,708	6,079	5,893	0,263	7	5,699	6,255	5,977	0,393	0,084
8	6,806	6,732	6,769	0,052	8	6,763	6,839	6,801	0,053	0,032
9	6,079	5,954	6,017	0,088	9	5,919	6,146	6,033	0,161	0,016
10	4,778	5,681	5,230	0,639	10	5,568	5,556	5,562	0,008	0,333
11	4,602	4,813	4,707	0,149	11	4,398	4,699	4,548	0,213	-0,159
12	5,255	5,663	5,459	0,288	12	5,839	5,771	5,805	0,048	0,346
13	6,322	5,881	6,102	0,312	13	6,230	6,301	6,266	0,050	0,164
14	5,279	5,230	5,255	0,034	14	5,146	5,322	5,234	0,125	-0,020
15	3,000	3,041	3,021	0,029	15	2,954	2,845	2,900	0,077	-0,121
16	5,833	5,763	5,798	0,049	16	5,740	5,806	5,773	0,047	-0,025
17	4,978	4,875	4,926	0,073	17	4,875	4,929	4,902	0,038	-0,024
18	2,778	2,778	2,778	0,000	18	3,114	3,041	3,078	0,051	0,300
19	3,204	3,255	3,230	0,036	19	3,301	3,255	3,278	0,032	0,048
20	5,362	4,477	4,919	0,626	20	4,653	4,544	4,599	0,077	-0,321

q= 20
n= 2
N=qn= 40

Mx= 4,712
MEDx= 5,069
SDbx= 1,291
MEDwx = 0,088
SDwx= 0,274
rob. SDwx= 0,131

My= 4,707
MEDy= 4,917
SDby= 1,372
MEDwy = 0,055
SDwy= 0,160
rob. SDwy= 0,081

M= -0,006
MED= -0,002
Biais

Choix de la méthode
GMFR

R= 0,583
rob. R= 0,619

Sx= 1,290
Sy= 1,359

r= 0,988
b= 1,054
a= -0,259

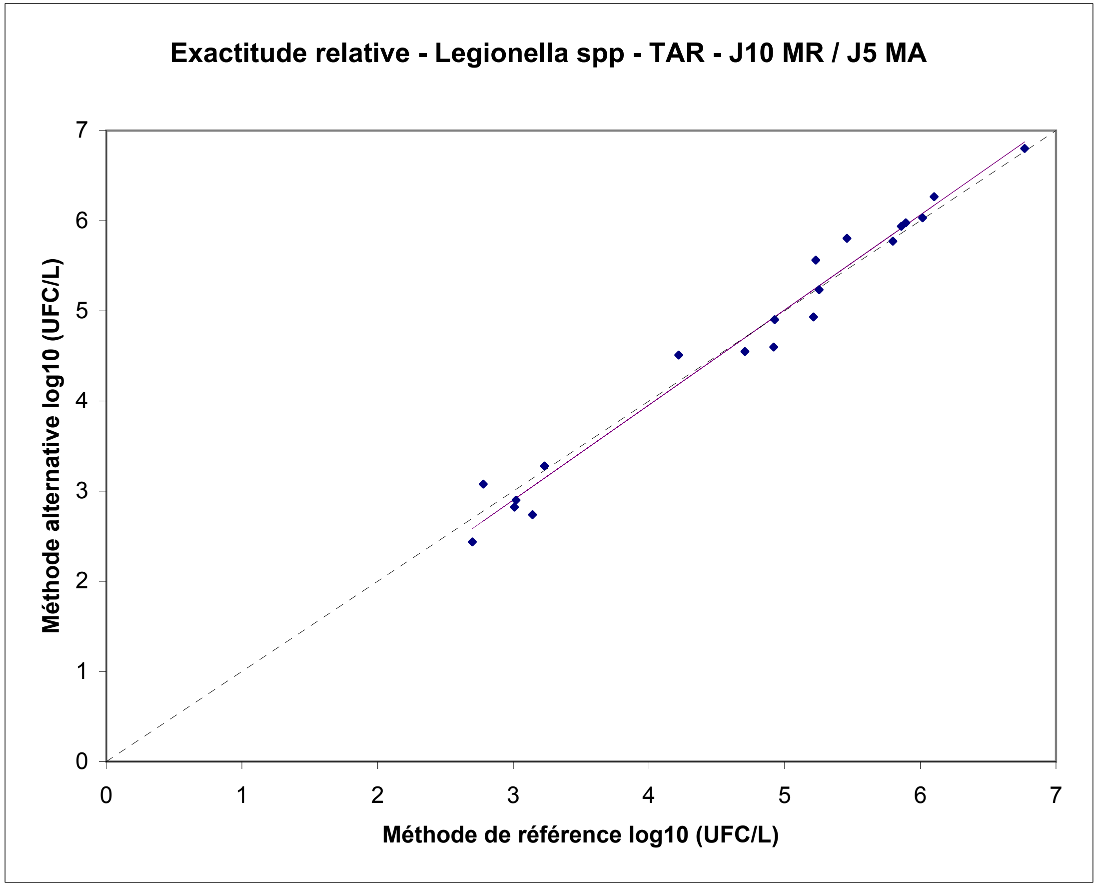
Res. SEM= 0,218
Res. SD= 0,309

S(b)= 0,039 **p(t;b=1)=** 0,174 **t(b)=** 1,384
S(a)= 0,123 **p(t;a=0)=** 0,043 **t(a)=** 2,098

Répétabilité	Méthode de référence	Méthode alternative
r	0,768	0,448
rob. r	0,367	0,227

Est. y	Dév.
2,585	-0,148
4,188	0,323
5,916	0,021
3,052	-0,313
2,911	-0,090
5,234	-0,302
5,951	0,026
6,874	-0,073
6,081	-0,049
5,252	0,310
4,702	-0,153
5,494	0,311
6,171	0,095
5,278	-0,044
2,924	-0,024
5,851	-0,077
4,932	-0,030
2,669	0,409
3,144	0,134
4,925	-0,326

Les points représentés correspondent aux moyennes des répétitions de chaque échantillon



Exactitude relative - Legionella spp - Eaux de tours aéro-réfrigérantes -J10 MR / J8 MA

Méthode de référence					Méthode alternative					Différence
Echantillon	Répétition 1	Répétition 2	M	SD	Echantillon	Répétition 1	Répétition 2	M	SD	
1	2,699	2,699	2,699	0,000	1	2,699	2,176	2,438	0,370	-0,261
2	4,041	4,398	4,220	0,252	2	4,544	4,477	4,511	0,047	0,291
3	5,863	5,857	5,860	0,004	3	5,982	5,924	5,953	0,041	0,093
4	3,079	3,204	3,142	0,088	4	2,699	2,778	2,739	0,056	-0,403
5	2,602	3,415	3,009	0,575	5	2,602	3,079	2,841	0,337	-0,168
6	5,279	5,146	5,212	0,094	6	4,959	4,929	4,944	0,021	-0,268
7	5,708	6,079	5,893	0,263	7	5,771	6,255	6,013	0,343	0,120
8	6,806	6,732	6,769	0,052	8	6,763	6,839	6,801	0,053	0,032
9	6,079	5,954	6,017	0,088	9	5,919	6,146	6,033	0,161	0,016
10	4,778	5,681	5,230	0,639	10	5,568	5,556	5,562	0,008	0,333
11	4,602	4,813	4,707	0,149	11	4,398	4,699	4,548	0,213	-0,159
12	5,255	5,663	5,459	0,288	12	5,839	5,771	5,805	0,048	0,346
13	6,322	5,881	6,102	0,312	13	6,230	6,301	6,266	0,050	0,164
14	5,279	5,230	5,255	0,034	14	5,146	5,322	5,234	0,125	-0,020
15	3,000	3,041	3,021	0,029	15	2,954	2,845	2,900	0,077	-0,121
16	5,833	5,763	5,798	0,049	16	5,740	5,806	5,773	0,047	-0,025
17	4,978	4,875	4,926	0,073	17	4,875	4,929	4,902	0,038	-0,024
18	2,778	2,778	2,778	0,000	18	3,114	3,079	3,097	0,025	0,318
19	3,204	3,255	3,230	0,036	19	3,322	3,415	3,369	0,066	0,139
20	5,362	4,477	4,919	0,626	20	4,699	4,602	4,651	0,069	-0,269

q= 20
n= 2
N=qn= 40

Mx= 4,712
MEDx= 5,069
SDbx= 1,291
MEDwx = 0,088
SDwx= 0,274
rob. SDwx= 0,131

My= 4,719
MEDy= 4,923
SDby= 1,367
MEDwy = 0,055
SDwy= 0,156
rob. SDwy= 0,081

M= 0,007
MED= -0,002
Biais

Choix de la méthode
GMFR

R= 0,570
rob. R= 0,619

Sx= 1,290
Sy= 1,354

r= 0,988
b= 1,050
a= -0,228

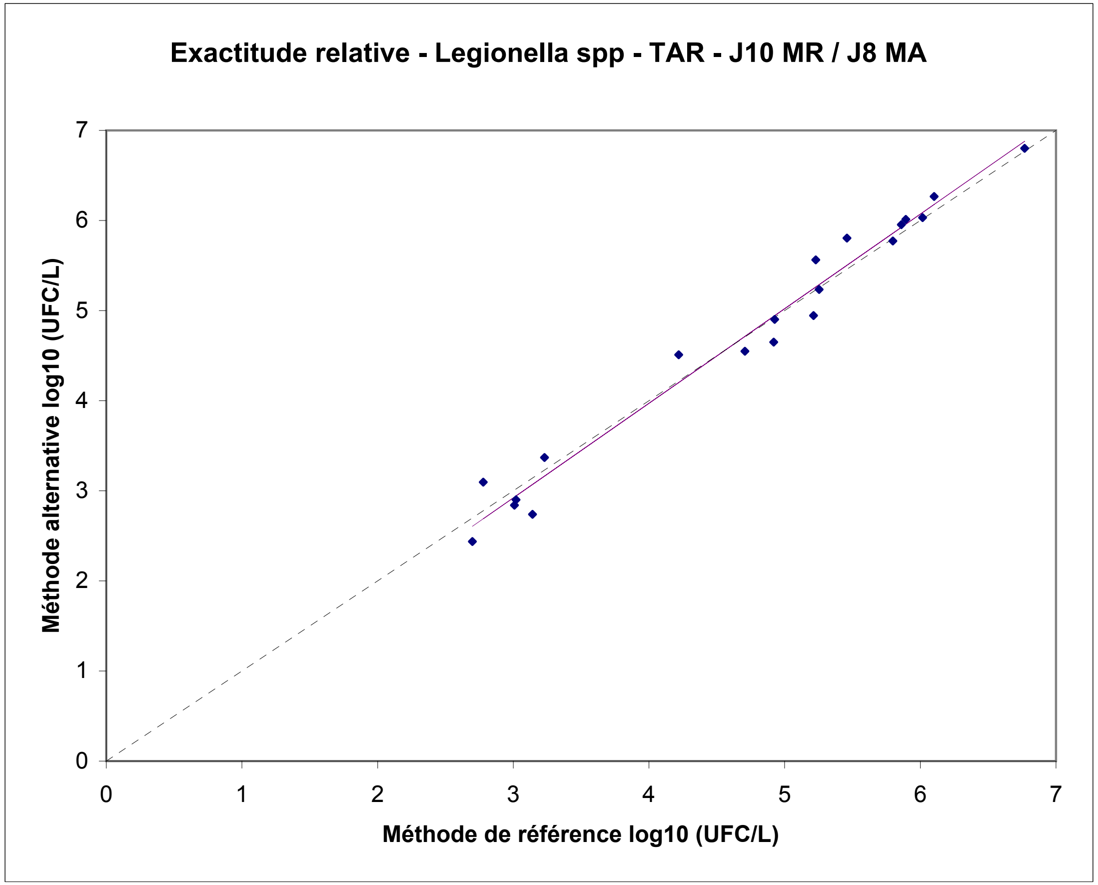
Res. SEM= 0,219
Res. SD= 0,310

S(b)= 0,039 **p(t;b=1)=** 0,209 **t(b)=** 1,279
S(a)= 0,124 **p(t;a=0)=** 0,073 **t(a)=** 1,843

Répétabilité	Méthode de référence	Méthode alternative
r	0,768	0,438
rob. r	0,367	0,227

Est. y	Dév.
2,605	-0,168
4,202	0,309
5,924	0,029
3,070	-0,331
2,930	-0,090
5,244	-0,300
5,959	0,054
6,878	-0,077
6,088	-0,056
5,262	0,300
4,714	-0,165
5,503	0,302
6,177	0,088
5,288	-0,054
2,943	-0,043
5,859	-0,085
4,944	-0,041
2,688	0,408
3,162	0,206
4,936	-0,286

Les points représentés correspondent aux moyennes des répétitions de chaque échantillon



Exactitude relative - Legionella spp - Eaux de tours aéro-réfrigérantes - J10 MR / J10 MA

Méthode de référence					Méthode alternative					Différence
Echantillon	Répétition 1	Répétition 2	M	SD	Echantillon	Répétition 1	Répétition 2	M	SD	
1	2,699	2,699	2,699	0,000	1	2,699	2,176	2,438	0,370	-0,261
2	4,041	4,398	4,220	0,252	2	4,544	4,477	4,511	0,047	0,291
3	5,863	5,857	5,860	0,004	3	5,982	5,924	5,953	0,041	0,093
4	3,079	3,204	3,142	0,088	4	2,699	2,778	2,739	0,056	-0,403
5	2,602	3,415	3,009	0,575	5	2,602	3,079	2,841	0,337	-0,168
6	5,279	5,146	5,212	0,094	6	4,959	4,929	4,944	0,021	-0,268
7	5,708	6,079	5,893	0,263	7	5,771	6,255	6,013	0,343	0,120
8	6,806	6,732	6,769	0,052	8	6,763	6,839	6,801	0,053	0,032
9	6,079	5,954	6,017	0,088	9	5,919	6,146	6,033	0,161	0,016
10	4,778	5,681	5,230	0,639	10	5,568	5,556	5,562	0,008	0,333
11	4,602	4,813	4,707	0,149	11	4,398	4,699	4,548	0,213	-0,159
12	5,255	5,663	5,459	0,288	12	5,839	5,771	5,805	0,048	0,346
13	6,322	5,881	6,102	0,312	13	6,230	6,301	6,266	0,050	0,164
14	5,279	5,230	5,255	0,034	14	5,146	5,322	5,234	0,125	-0,020
15	3,000	3,041	3,021	0,029	15	2,954	2,845	2,900	0,077	-0,121
16	5,833	5,763	5,798	0,049	16	5,740	5,806	5,773	0,047	-0,025
17	4,978	4,875	4,926	0,073	17	4,875	4,929	4,902	0,038	-0,024
18	2,778	2,778	2,778	0,000	18	3,114	3,079	3,097	0,025	0,318
19	3,204	3,255	3,230	0,036	19	3,322	3,415	3,369	0,066	0,139
20	5,362	4,477	4,919	0,626	20	4,699	4,602	4,651	0,069	-0,269

q= 20 **Mx=** 4,712 **My=** 4,719 **M=** 0,007
n= 2 **MEDx=** 5,069 **MEDy=** 4,923 **MED=** -0,002
N=qn= 40 **SDbx=** 1,291 **SDby=** 1,367 Biais
MEDwx = 0,088 **MEDwy =** 0,055
SDwx= 0,274 **SDwy=** 0,156
rob. SDwx= 0,131 **rob. SDwy=** 0,081

Choix de la méthode
GMFR

R= 0,570
rob. R= 0,619
Sx= 1,290
Sy= 1,354

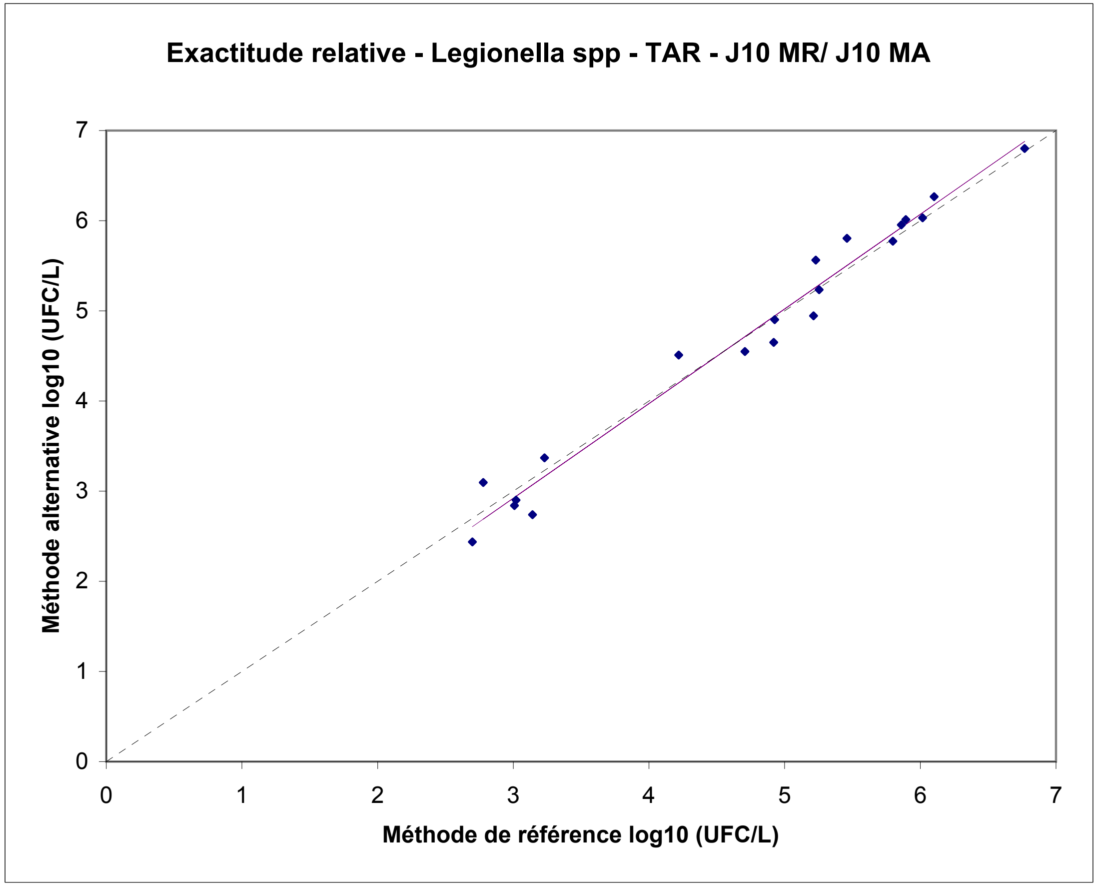
r= 0,988
b= 1,050 **Res. SEM=** 0,219
a= -0,228 **Res. SD=** 0,310

S(b)= 0,039 **p(t;b=1)=** 0,209 **t(b)=** 1,279
S(a)= 0,124 **p(t;a=0)=** 0,073 **t(a)=** 1,843

Est. y	Dév.
2,605	-0,168
4,202	0,309
5,924	0,029
3,070	-0,331
2,930	-0,090
5,244	-0,300
5,959	0,054
6,878	-0,077
6,088	-0,056
5,262	0,300
4,714	-0,165
5,503	0,302
6,177	0,088
5,288	-0,054
2,943	-0,043
5,859	-0,085
4,944	-0,041
2,688	0,408
3,162	0,206
4,936	-0,286

Répétabilité	Méthode de référence	Méthode alternative
r	0,768	0,438
rob. r	0,367	0,227

Les points représentés correspondent aux moyennes des répétitions de chaque échantillon



Relative accuracy- Recreational waters - Aerobic incubation

Concentration calculée à partir de l'ensemencement direct
Concentration calculée à partir de l'ensemencement du concentrât
Résultat non exploitable

	Eau	Origine	Code souche	Analyse	Méthode de référence ISO 11731 (mai 1998)								Méthode alternative Legionella MWY							
					R1				R2				R1				R2			
					UFC/L	Confirm latex	Résultats confirmés UFC/L	Log 10 (UFC/L)	UFC/L	Confirm latex	Résultats confirmés UFC/L	Log 10 (UFC/L)	UFC/L	Confirm latex	Résultats confirmés UFC/L	Log 10 (UFC/L)	UFC/L	Confirm latex	Résultats confirmés UFC/L	Log 10 (UFC/L)
1	T1	Thermes de la Léchère	LEG.1.1	J5	5,0E+01	Lp sg 1	5,0E+01	1,70	5,0E+01	Lp sg 1	5,0E+01	1,70	1,5E+02	Lp sg 1	1,5E+02	2,18	5,0E+01	Lp sg 1	5,0E+01	1,70
				J8	5,0E+01	Lp sg 1	5,0E+01	1,70	5,0E+01	Lp sg 1	5,0E+01	1,70	1,5E+02	Lp sg 1	1,5E+02	2,18	5,0E+01	Lp sg 1	5,0E+01	1,70
				J10	5,0E+01	Lp sg 1	5,0E+01	1,70	5,0E+01	Lp sg 1	5,0E+01	1,70	1,5E+02	Lp sg 1	1,5E+02	2,18	5,0E+01	Lp sg 1	5,0E+01	1,70
2	T2	Thermes de St Gervais Les Bains Forage De Mey Est	LEG.1.4	J5	4,6E+05	Lp sg 2-14	4,6E+05	5,66	4,0E+05	Lp sg 2-14	4,0E+05	5,60	3,4E+05	Lp sg 2-15	3,4E+05	5,53	4,0E+05	Lp sg 2-15	4,0E+05	5,60
				J8	4,6E+05	Lp sg 2-14	4,6E+05	5,66	4,0E+05	Lp sg 2-14	4,0E+05	5,60	3,4E+05	Lp sg 2-15	3,4E+05	5,53	4,0E+05	Lp sg 2-15	4,0E+05	5,60
				J10	4,6E+05	Lp sg 2-14	4,6E+05	5,66	4,0E+05	Lp sg 2-14	4,0E+05	5,60	3,4E+05	Lp sg 2-15	3,4E+05	5,53	4,0E+05	Lp sg 2-15	4,0E+05	5,60
3	T3	Thermes de St Gervais Les Bains Forage Lépinay	LEG.1.6	J5	5,0E+01	Lp sg 2-14	5,0E+01	1,70	5,0E+01	Lp sg 2-14	5,0E+01	1,70	5,0E+01	Lp sg 2-15	5,0E+01	1,70	5,0E+01	Lp sg 2-15	5,0E+01	1,70
				J8	5,0E+01	Lp sg 2-14	5,0E+01	1,70	5,0E+01	Lp sg 2-14	5,0E+01	1,70	5,0E+01	Lp sg 2-15	5,0E+01	1,70	5,0E+01	Lp sg 2-15	5,0E+01	1,70
				J10	5,0E+01	Lp sg 2-14	5,0E+01	1,70	5,0E+01	Lp sg 2-14	5,0E+01	1,70	5,0E+01	Lp sg 2-15	5,0E+01	1,70	5,0E+01	Lp sg 2-15	5,0E+01	1,70
4	P8	Piscine d'Aix les Bains	LEG.1.5	J5	5,7E+05	Lp sg 2-14	5,7E+05	5,76	5,1E+05	Lp sg 2-14	5,1E+05	5,71	3,9E+05	Lp sg 2-15	3,9E+05	5,59	4,8E+05	Lp sg 2-15	4,8E+05	5,68
				J8	5,7E+05	Lp sg 2-14	5,7E+05	5,76	5,1E+05	Lp sg 2-14	5,1E+05	5,71	4,2E+05	Lp sg 2-15	4,2E+05	5,62	4,9E+05	Lp sg 2-15	4,9E+05	5,69
				J10	5,7E+05	Lp sg 2-14	5,7E+05	5,76	5,1E+05	Lp sg 2-14	5,1E+05	5,71	4,2E+05	Lp sg 2-15	4,2E+05	5,62	4,9E+05	Lp sg 2-15	4,9E+05	5,69
5	T9	Thermes d'Uriage les Bains	LEG.1.5	J5	1,0E+05	Lp sg 2-14	1,0E+05	5,00	8,5E+04	Lp sg 2-14	8,5E+04	4,93	7,5E+04	Lp sg 2-15	7,5E+04	4,88	6,5E+04	Lp sg 2-15	6,5E+04	4,81
				J8	1,0E+05	Lp sg 2-14	1,0E+05	5,00	8,5E+04	Lp sg 2-14	8,5E+04	4,93	8,0E+04	Lp sg 2-15	8,0E+04	4,90	7,0E+04	Lp sg 2-15	7,0E+04	4,85
				J10	1,0E+05	Lp sg 2-14	1,0E+05	5,00	8,5E+04	Lp sg 2-14	8,5E+04	4,93	8,0E+04	Lp sg 2-15	8,0E+04	4,90	7,0E+04	Lp sg 2-15	7,0E+04	4,85
6	L10	Lac de Lacanau	LEG.1.5	J5	6,5E+02	Lp sg 2-14	6,5E+02	2,81	4,1E+03	Lp sg 2-14	4,1E+03	3,61	1,5E+02	Lp sg 2-15	1,5E+02	2,18	3,9E+03	Lp sg 2-15	3,9E+03	3,59
				J8	6,5E+02	Lp sg 2-14	6,5E+02	2,81	4,1E+03	Lp sg 2-14	4,1E+03	3,61	2,0E+02	Lp sg 2-15	2,0E+02	2,30	3,9E+03	Lp sg 2-15	3,9E+03	3,59
				J10	6,5E+02	Lp sg 2-14	6,5E+02	2,81	4,1E+03	Lp sg 2-14	4,1E+03	3,61	2,0E+02	Lp sg 2-15	2,0E+02	2,30	3,9E+03	Lp sg 2-15	3,9E+03	3,59
7	P4	Piscine Paris 2	LEG.1.14	J5	6,0E+04	Lp sg 2-14	3,5E+04	4,54	4,0E+04	Lp sg 2-14	4,0E+04	4,60	5,0E+03	Lp sg 2-15	5,0E+03	3,70	5,0E+03	Lp sg 2-15	5,0E+03	3,70
				J8	6,0E+04	Lp sg 2-14	3,5E+04	4,54	4,0E+04	Lp sg 2-14	4,0E+04	4,60	1,0E+04	Lp sg 2-15	1,0E+04	4,00	5,0E+03	Lp sg 2-15	5,0E+03	3,70
				J10	6,0E+04	Lp sg 2-14	3,5E+04	4,54	4,0E+04	Lp sg 2-14	4,0E+04	4,60	1,0E+04	Lp sg 2-15	1,0E+04	4,00	5,0E+03	Lp sg 2-15	5,0E+03	3,70
8	T13	Thermes de la Bourboule Les grands thermes	LEG.1.14	J5	2,4E+03	Lp sg 2-15	2,4E+03	3,38	2,5E+04	Lp sg 2-15	2,5E+04	4,40	2,5E+04	Lp sg 2-15	2,5E+04	4,40	2,5E+04	Lp sg 2-15	2,5E+04	4,40
				J8	2,5E+04	Lp sg 2-15	2,5E+04	4,40	2,5E+04	Lp sg 2-15	2,5E+04	4,40	4,5E+04	Lp sg 2-15	4,5E+04	4,65	5,0E+04	Lp sg 2-15	5,0E+04	4,70
				J10	2,5E+04	Lp sg 2-15	2,5E+04	4,40	2,5E+04	Lp sg 2-15	2,5E+04	4,40	4,5E+04	Lp sg 2-15	4,5E+04	4,65	5,0E+04	Lp sg 2-15	5,0E+04	4,70
9	T12	Thermes de la Bourboule Choussy	LEG.1.14	J5	3,5E+03	Lp sg 2-15	3,5E+03	3,54	3,3E+03	Lp sg 2-15	3,3E+03	3,52	6,1E+03	Lp sg 2-15	6,1E+03	3,79	3,0E+04	Lp sg 2-15	3,0E+04	4,48
				J8	3,8E+03	Lp sg 2-15	3,8E+03	3,58	4,0E+03	Lp sg 2-15	4,0E+03	3,60	8,1E+03	Lp sg 2-15	8,1E+03	3,91	4,0E+04	Lp sg 2-15	4,0E+04	4,60
				J10	3,8E+03	Lp sg 2-15	3,8E+03	3,58	4,0E+03	Lp sg 2-15	4,0E+03	3,60	8,1E+03	Lp sg 2-15	8,1E+03	3,91	4,0E+04	Lp sg 2-15	4,0E+04	4,60
10	3T	Thermes de Thonon les Bains	LEG.1.14	J5	5,0E+02	Lp sg 2-15	5,0E+02	2,70	5,0E+01	Lp sg 2-15	5,0E+01	1,70	6,0E+02	Lp sg 2-15	6,0E+02	2,78	5,0E+01	Lp sg 2-15	5,0E+01	1,70
				J8	5,0E+02	Lp sg 2-15	5,0E+02	2,70	5,0E+01	Lp sg 2-15	5,0E+01	1,70	7,0E+02	Lp sg 2-15	7,0E+02	2,85	1,0E+02	Lp sg 2-15	1,0E+02	2,00
				J10	5,0E+02	Lp sg 2-15	5,0E+02	2,70	5,0E+01	Lp sg 2-15	5,0E+01	1,70	7,0E+02	Lp sg 2-15	7,0E+02	2,85	1,0E+02	Lp sg 2-15	1,0E+02	2,00
11	9T	Lac de Saint Christoly	LEG.1.3	J5	8,5E+05	Lp sg 2-15	8,5E+05	5,93	7,5E+05	Lp sg 2-15	7,5E+05	5,88	8,8E+05	Lp sg 2-15	8,8E+05	5,94	9,5E+05	Lp sg 2-15	9,5E+05	5,98
				J8	8,8E+05	Lp sg 2-15	8,8E+05	5,94	1,0E+06	Lp sg 2-15	1,0E+06	6,00	9,0E+05	Lp sg 2-15	9,0E+05	5,95	1,0E+06	Lp sg 2-15	1,0E+06	6,00
				J10	8,8E+05	Lp sg 2-15	8,8E+05	5,94	1,0E+06	Lp sg 2-15	1,0E+06	6,00	9,0E+05	Lp sg 2-15	9,0E+05	5,95	1,0E+06	Lp sg 2-15	1,0E+06	6,00
12	P15	Piscine Thermes de St Gervais les bains	LEG.1.5	J5	1,3E+03	Lp sg 2-15	1,3E+03	3,11	1,6E+03	Lp sg 2-15	1,6E+03	3,20	2,9E+03	Lp sg 2-15	2,9E+03	3,46	7,3E+03	Lp sg 2-15	7,3E+03	3,86
				J8	1,3E+03	Lp sg 2-15	1,3E+03	3,11	1,6E+03	Lp sg 2-15	1,6E+03	3,20	3,2E+03	Lp sg 2-15	3,2E+03	3,51	7,5E+03	Lp sg 2-15	7,5E+03	3,88
				J10	1,3E+03	Lp sg 2-15	1,3E+03	3,11	1,6E+03	Lp sg 2-15	1,6E+03	3,20	3,2E+03	Lp sg 2-15	3,2E+03	3,51	7,5E+03	Lp sg 2-15	7,5E+03	3,88
13	T5	Thermes Thonons les bains	LEG.1.4	J5	<250	/	<250	/	<250	/	<250	/	<250	Lp sg 2-15	<250	/	<250	/	<250	/
				J8	<250	/	<250	/	<250	/	<250	/	2,0E+02	Lp sg 2-15	2,0E+02	2,30	<250	/	<250	/
				J10	<250	/	<250	/	<250	/	<250	/	2,0E+02	Lp sg 2-15	2,0E+02	2,30	<250	/	<250	/
14	L1	Lac Bourget	LEG.1.9	J5	<250	/	<250	/	7,5E+02	Lp sg 2-14	7,5E+02	2,88	<250	/	<250	/	3,5E+02	Lp sg 2-15	3,5E+02	2,54
				J8	<250	/	<250	/	7,5E+02	Lp sg 2-14	7,5E+02	2,88	<250	/	<250	/	3,5E+02	Lp sg 2-15	3,5E+02	2,54
				J10	<250	/	<250	/	7,5E+02	Lp sg 2-14	7,5E+02	2,88	<250	/	<250	/	3,5E+02	Lp sg 2-15	3,5E+02	2,54
15	L18	Lac de nantes	LEG.1.9	J5	<250	/	<250	/	<250	/	<250	/	<250	/	<250	/	<250	/	<250	/
				J8	<250	/	<250	/	<250	/	<250	/	<250	/	<250	/	<250	/	<250	/
				J10	<250	/	<250	/	<250	/	<250	/	<250	/	<250	/	<250	/	<250	/
16	T7	Thermes d'Aix les Bains	LEG.1.6	J5	<250	/	<250	/	<250	/	<250	/	<250	/	<250	/	<250	/	<250	/
				J8	<250	/	<250	/	<250	/	<250	/	<250	/	<250	/	<250	/	<250	/
				J10	<250	/	<250	/	<250	/	<250	/	<250	/	<250	/	<250	/	<250	/
17	B6	Plage de la Pinéde Thonon les Bains	LEG.1.6	J5	1,9E+03	/	<250	/	4,1E+03	/	<250	/	1,8E+03	/	<250	/	1,3E+03	/	<250	/
				J8	1,9E+03	/	<250	/	4,1E+03	/	<250	/	1,8E+03	/	<250	/	1,3E+03	/	<250	/
				J10	1,9E+03	/	<250	/	4,1E+03	/	<250	/	1,8E+03	/	<250	/	1,3E+03	/	<250	/

Relative accuracy- Recreational waters - Incubation with CO2

Légende
Concentration calculée à partir de l'ensemencement directe
Concentration calculée à partir de l'ensemencement du concentrât
Résultat non exploitable

	Eau	Origine	Code souche	Analyse	Méthode de référence ISO 11731 (mai 1998)								Méthode alternative Legionella MWY							
					R1				R2				R1				R2			
					UFC/L	Confirm latex	Résultats confirmés		UFC/L	Confirm latex	Résultats confirmés		UFC/L	Confirm latex	Résultats confirmés		UFC/L	Confirm latex	Résultats confirmés	
							UFC/L	Log 10 (UFC/L)			UFC/L	Log 10 (UFC/L)			UFC/L	Log 10 (UFC/L)			UFC/L	Log 10 (UFC/L)
13	10T	Thermes de Vichy	LEG.1.3	J5	1,6E+05	Lp sg 2-15	1,6E+05	5,20	1,40E+05	Lp sg 2-15	1,4E+05	5,15	2,1E+05	Lp sg 2-15	2,1E+05	5,32	1,9E+05	Lp sg 2-15	1,9E+05	5,28
				J8	1,6E+05	Lp sg 2-15	1,6E+05	5,20	1,40E+05	Lp sg 2-15	1,4E+05	5,15	2,1E+05	Lp sg 2-15	2,1E+05	5,32	1,9E+05	Lp sg 2-15	1,9E+05	5,28
				J10	1,6E+05	Lp sg 2-15	1,6E+05	5,20	1,4E+05	Lp sg 2-15	1,4E+05	5,15	2,1E+05	Lp sg 2-15	2,1E+05	5,32	1,9E+05	Lp sg 2-15	1,9E+05	5,28
14	J1	Jacuzzi Saint Geneviève des bois	LEG.1.17	J5	6,5E+04	Lp sg 2-15	6,0E+04	4,78	4,5E+04	Lp sg 2-15	4,5E+04	4,65	1,5E+04	Lp sg 2-15	1,5E+04	4,18	5,0E+03	Lp sg 2-15	5,0E+03	3,70
				J8	6,5E+04	Lp sg 2-15	6,0E+04	4,78	5,5E+04	Lp sg 2-15	5,5E+04	4,74	1,5E+04	Lp sg 2-15	1,5E+04	4,18	1,0E+04	Lp sg 2-15	1,0E+04	4,00
				J10	6,5E+04	Lp sg 2-15	6,0E+04	4,78	5,5E+04	Lp sg 2-15	5,5E+04	4,74	1,5E+04	Lp sg 2-15	1,5E+04	4,18	1,0E+04	Lp sg 2-15	1,0E+04	4,00
15	A	Lac Aiguebelette	LEG.1.17	J5	6,0E+02	Lp sg 2-15	2,5E+02	2,40	1,8E+03	Lp sg 2-15	6,5E+02	2,81	7,5E+02	Lp sg 2-15	3,5E+02	2,54	1,8E+03	Lp sg 2-15	7,5E+02	2,88
				J8	8,0E+02	Lp sg 2-15	4,0E+02	2,60	1,8E+03	Lp sg 2-15	7,0E+02	2,85	8,0E+02	Lp sg 2-15	4,0E+02	2,60	1,8E+03	Lp sg 2-15	7,5E+02	2,88
				J10	8,0E+02	Lp sg 2-15	4,0E+02	2,60	1,8E+03	Lp sg 2-15	7,0E+02	2,85	8,0E+02	Lp sg 2-15	4,0E+02	2,60	1,8E+03	Lp sg 2-15	7,5E+02	2,88
16	J2	Jacuzzi Paris 8	LEG.1.17	J5	5,2E+05	Lp sg 2-15	5,2E+05	5,72	7,0E+04	Lp sg 2-15	7,0E+04	4,85	9,0E+04	Lp sg 2-15	9,0E+04	4,95	1,5E+04	Lp sg 2-15	1,5E+04	4,18
				J8	5,7E+05	Lp sg 2-15	5,7E+05	5,76	8,5E+04	Lp sg 2-15	8,5E+04	4,93	1,3E+05	Lp sg 2-15	1,3E+05	5,11	2,0E+04	Lp sg 2-15	2,0E+04	4,30
				J10	5,7E+05	Lp sg 2-15	5,7E+05	5,76	8,5E+04	Lp sg 2-15	8,5E+04	4,93	1,3E+05	Lp sg 2-15	1,3E+05	5,11	2,0E+04	Lp sg 2-15	2,0E+04	4,30
17	J3	Jacuzzi	LEG.6.1	J5	4,6E+03	Leg spp	4,6E+03	3,66	6,3E+03	Leg spp	6,3E+03	3,80	4,2E+03	- *	4,2E+03	3,62	3,8E+03	- *	3,8E+03	3,58
				J8	4,8E+03	Leg spp	4,8E+03	3,68	6,3E+03	Leg spp	6,3E+03	3,80	5,5E+03	- *	5,5E+03	3,74	3,8E+03	- *	3,8E+03	3,58
				J10	4,8E+03	Leg spp	4,8E+03	3,68	6,3E+03	Leg spp	6,3E+03	3,80	5,5E+03	- *	5,5E+03	3,74	3,8E+03	- *	3,8E+03	3,58
18	L1	Lac Bourget	LEG.5.1	J5	2,0E+02	Leg spp	2,0E+02	2,30	1,0E+02	Leg spp	1,0E+02	2,00	5,0E+01	- *	5,0E+01	1,70	5,0E+01	- *	5,0E+01	1,70
				J8	2,0E+02	Leg spp	2,0E+02	2,30	1,0E+02	Leg spp	1,0E+02	2,00	5,0E+01	- *	5,0E+01	1,70	5,0E+01	- *	5,0E+01	1,70
				J10	2,0E+02	Leg spp	2,0E+02	2,30	1,0E+02	Leg spp	1,0E+02	2,00	5,0E+01	- *	5,0E+01	1,70	5,0E+01	- *	5,0E+01	1,70
19	P16	Piscine Chantilly	LEG.1.9	J5	8,5E+02	Lp sg 2-14	8,5E+02	2,93	1,4E+03	Lp sg 2-14	1,4E+03	3,15	1,8E+03	Lp sg 2-15	1,8E+03	3,26	1,5E+03	Lp sg 2-15	1,5E+03	3,18
				J8	8,5E+02	Lp sg 2-14	8,5E+02	2,93	1,4E+03	Lp sg 2-14	1,4E+03	3,15	1,9E+03	Lp sg 2-15	1,9E+03	3,28	1,5E+03	Lp sg 2-15	1,5E+03	3,18
				J10	8,5E+02	Lp sg 2-14	8,5E+02	2,93	1,4E+03	Lp sg 2-14	1,4E+03	3,15	1,9E+03	Lp sg 2-15	1,9E+03	3,28	1,5E+03	Lp sg 2-15	1,5E+03	3,18
20	T18	Piscine Evian les bains	LEG.1.9	J5	6,0E+04	Lp sg 2-14	6,0E+04	4,78	9,0E+03	Lp sg 2-14	9,0E+03	3,95	7,0E+04	Lp sg 2-15	7,0E+04	4,85	1,3E+04	Lp sg 2-15	1,3E+04	4,11
				J8	6,0E+04	Lp sg 2-14	6,0E+04	4,78	9,0E+03	Lp sg 2-14	9,0E+03	3,95	7,0E+04	Lp sg 2-15	7,0E+04	4,85	1,3E+04	Lp sg 2-15	1,3E+04	4,11
				J10	6,0E+04	Lp sg 2-14	6,0E+04	4,78	9,0E+03	Lp sg 2-14	9,0E+03	3,95	7,0E+04	Lp sg 2-15	7,0E+04	4,85	1,3E+04	Lp sg 2-15	1,3E+04	4,11
21	L18	Lac de nantes	LEG.1.2	J5	2,5E+03	Lp sg 2-14	2,5E+03	3,40	9,5E+02	Lp sg 2-14	9,5E+02	2,98	1,6E+03	Lp sg 2-15	1,6E+03	3,20	6,5E+02	Lp sg 2-15	6,5E+02	2,81
				J8	9,5E+03	Lp sg 2-14	9,5E+03	3,98	2,9E+03	Lp sg 2-14	2,9E+03	3,46	3,1E+03	Lp sg 2-15	3,1E+03	3,49	1,7E+03	Lp sg 2-15	1,7E+03	3,23
				J10	9,5E+03	Lp sg 2-14	9,5E+03	3,98	2,9E+03	Lp sg 2-14	2,9E+03	3,46	3,1E+03	Lp sg 2-15	3,1E+03	3,49	1,7E+03	Lp sg 2-15	1,7E+03	3,23
22	P19	Piscine Villiers sur orge	LEG.1.9	J5	3,0E+04	Lp sg 2-14	3,0E+04	4,48	2,5E+04	Lp sg 2-14	2,5E+04	4,40	3,0E+04	Lp sg 2-15	3,0E+04	4,48	3,5E+04	Lp sg 2-15	3,5E+04	4,54
				J8	2,0E+05	Lp sg 2-14	2,0E+05	5,30	2,3E+05	Lp sg 2-14	2,3E+05	5,36	3,6E+05	Lp sg 2-15	3,6E+05	5,56	3,4E+05	Lp sg 2-15	3,4E+05	5,53
				J10	2,0E+05	Lp sg 2-14	2,0E+05	5,30	2,3E+05	Lp sg 2-14	2,3E+05	5,36	3,6E+05	Lp sg 2-15	3,6E+05	5,56	3,4E+05	Lp sg 2-15	3,4E+05	5,53

* : Colonies testées avec le kit Slidex donnant un résultat négatif puis avec le kit Oxoid donnant un résultat positif (*L* .spp)

Exactitude relative - Legionella spp - Eaux créatives - J10 MR /J5 MA

Méthode de référence					Méthode alternative					
Echantillon	Répétition 1	Répétition 2	M	SD	Echantillon	Répétition 1	Répétition 2	M	SD	Différence
1	1,699	1,699	1,699	0,000	1	2,176	1,699	1,938	0,337	0,239
2	5,663	5,602	5,632	0,043	2	5,531	5,602	5,567	0,050	-0,066
3	1,699	1,699	1,699	0,000	3	1,699	1,699	1,699	0,000	0,000
4	5,756	5,708	5,732	0,034	4	5,591	5,681	5,636	0,064	-0,096
5	5,000	4,929	4,965	0,050	5	4,875	4,813	4,844	0,044	-0,121
6	2,813	3,613	3,213	0,566	6	2,176	3,591	2,884	1,001	-0,329
7	4,544	4,602	4,573	0,041	7	3,699	3,699	3,699	0,000	-0,874
8	4,398	4,398	4,398	0,000	8	4,398	4,398	4,398	0,000	0,000
9	3,580	3,602	3,591	0,016	9	3,785	4,477	4,131	0,489	0,540
10	2,699	1,699	2,199	0,707	10	2,778	1,699	2,239	0,763	0,040
11	5,944	6,000	5,972	0,039	11	5,944	5,978	5,961	0,024	-0,011
12	3,114	3,204	3,159	0,064	12	3,462	3,863	3,663	0,283	0,504
13	5,204	5,146	5,175	0,041	13	5,322	5,279	5,300	0,031	0,125
14	4,778	4,740	4,759	0,027	14	4,176	3,699	3,938	0,337	-0,822
15	2,602	2,845	2,724	0,172	15	2,544	2,875	2,710	0,234	-0,014
16	5,756	4,929	5,343	0,584	16	4,954	4,176	4,565	0,550	-0,777
17	3,681	3,799	3,740	0,084	17	3,623	3,580	3,602	0,031	-0,139
18	2,301	2,000	2,151	0,213	18	1,699	1,699	1,699	0,000	-0,452
19	2,929	3,146	3,038	0,153	19	3,255	3,176	3,216	0,056	0,178
20	4,778	3,954	4,366	0,583	20	4,845	4,114	4,480	0,517	0,113
21	3,978	3,462	3,720	0,364	21	3,204	2,813	3,009	0,277	-0,712
22	5,301	5,362	5,331	0,043	22	4,477	4,544	4,511	0,047	-0,821

q= 22
n= 2
N=qn= 44

Mx= 3,963
MEDx= 4,053
SDbx= 1,346
MEDwx = 0,046
SDwx= 0,283
rob. SDwx= 0,069

My= 3,804
MEDy= 3,818
SDby= 1,279
MEDwy = 0,060
SDwy= 0,360
rob. SDwy= 0,089

M= -0,159
MED= -0,040
Biais

Choix de la méthode
GMFR

R= 1,274
rob. R= 1,290

Sx= 1,346
Sy= 1,290

r= 0,950
b= 0,958
a= 0,006

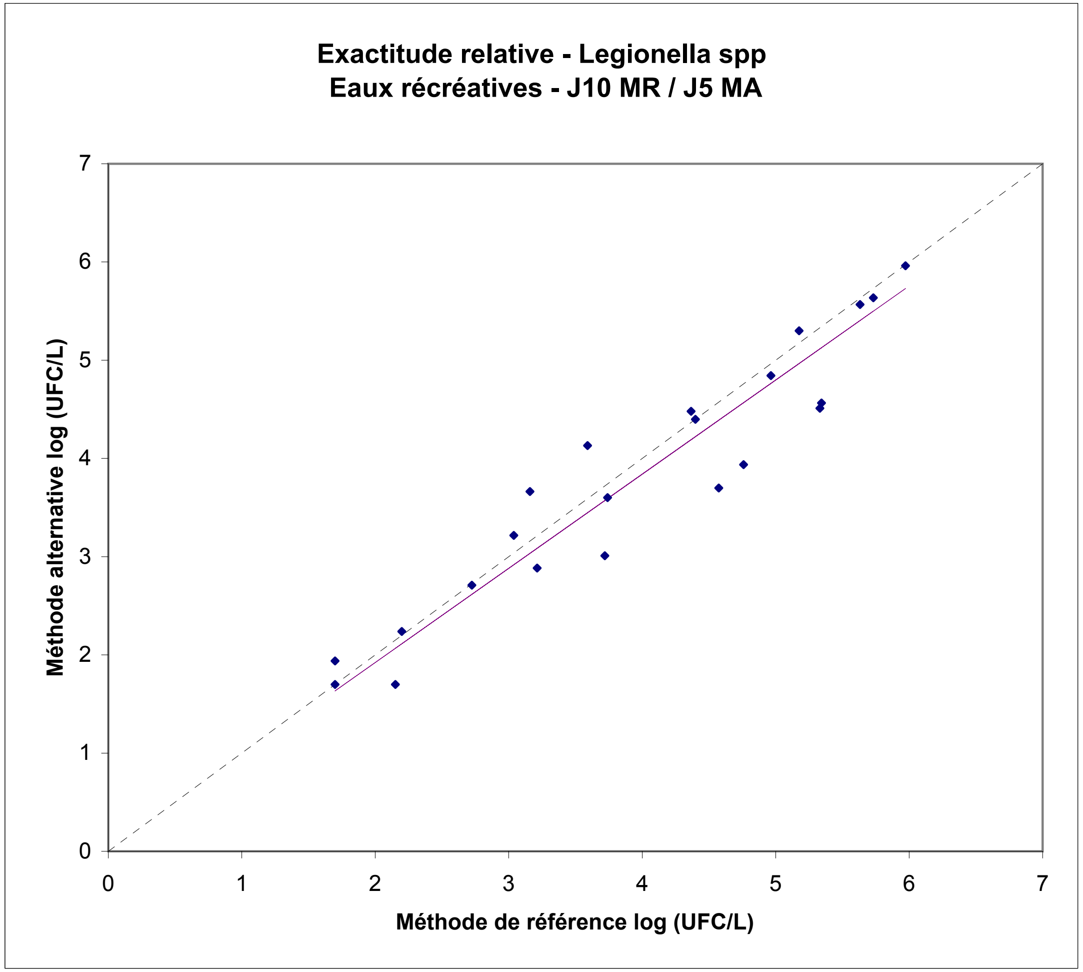
Res. SEM= 0,415
Res. SD= 0,587

S(b)= 0,067 **p(t;b=1)=** 0,541 **t(b)=** 0,616
S(a)= 0,257 **p(t;a=0)=** 0,982 **t(a)=** 0,022

Est. y	Dév.
1,634	0,303
5,404	0,162
1,634	0,065
5,499	0,137
4,764	0,080
3,085	-0,202
4,389	-0,690
4,221	0,177
3,448	0,684
2,113	0,125
5,730	0,231
3,034	0,629
4,966	0,335
4,567	-0,630
2,616	0,093
5,127	-0,561
3,591	0,011
2,067	-0,368
2,917	0,298
4,191	0,289
3,571	-0,563
5,116	-0,605

Répétabilité	Méthode de référence	Méthode alternative
r	0,791	1,007
rob. r	0,193	0,249

Les points représentés correspondent aux moyennes des répétitions de chaque échantillon



Exactitude relative - Legionella spp - Eaux récréatives - J10 MR / J8 MA

Méthode de référence					Méthode alternative					Différence
Echantillon	Répétition 1	Répétition 2	M	SD	Echantillon	Répétition 1	Répétition 2	M	SD	
1	1,699	1,699	1,699	0,000	1	2,176	1,699	1,938	0,337	0,239
2	5,663	5,602	5,632	0,043	2	5,531	5,602	5,567	0,050	-0,066
3	1,699	1,699	1,699	0,000	3	1,699	1,699	1,699	0,000	0,000
4	5,756	5,708	5,732	0,034	4	5,623	5,690	5,657	0,047	-0,075
5	5,000	4,929	4,965	0,050	5	4,903	4,845	4,874	0,041	-0,091
6	2,813	3,613	3,213	0,566	6	2,301	3,591	2,946	0,912	-0,267
7	4,544	4,602	4,573	0,041	7	4,000	3,699	3,849	0,213	-0,724
8	4,398	4,398	4,398	0,000	8	4,653	4,699	4,676	0,032	0,278
9	3,580	3,602	3,591	0,016	9	3,908	4,602	4,255	0,490	0,664
10	2,699	1,699	2,199	0,707	10	2,845	2,000	2,423	0,598	0,224
11	5,944	6,000	5,972	0,039	11	5,954	6,000	5,977	0,032	0,005
12	3,114	3,204	3,159	0,064	12	3,505	3,875	3,690	0,262	0,531
13	5,204	5,146	5,175	0,041	13	5,322	5,279	5,300	0,031	0,125
14	4,778	4,740	4,759	0,027	14	4,176	4,000	4,088	0,125	-0,671
15	2,602	2,845	2,724	0,172	15	2,602	2,875	2,739	0,193	0,015
16	5,756	4,929	5,343	0,584	16	5,114	4,301	4,707	0,575	-0,635
17	3,681	3,799	3,740	0,084	17	3,740	3,580	3,660	0,114	-0,080
18	2,301	2,000	2,151	0,213	18	1,699	1,699	1,699	0,000	-0,452
19	2,929	3,146	3,038	0,153	19	3,279	3,176	3,227	0,073	0,190
20	4,778	3,954	4,366	0,583	20	4,845	4,114	4,480	0,517	0,113
21	3,978	3,462	3,720	0,364	21	3,491	3,230	3,361	0,184	-0,359
22	5,301	5,362	5,331	0,043	22	5,556	5,531	5,544	0,018	0,213

q= 22
n= 2
N=qn= 44

Mx= 3,963
MEDx= 4,053
SDbx= 1,346
MEDwx = 0,046
SDwx= 0,283
rob. SDwx= 0,069

My= 3,925
MEDy= 3,969
SDby= 1,316
MEDwy = 0,119
SDwy= 0,328
rob. SDwy= 0,176

M= -0,037
MED= 0,002
Biais

Choix de la méthode
OLS1

R= 1,162
rob. R= 2,565

Sx= 1,346
Sy= 1,321

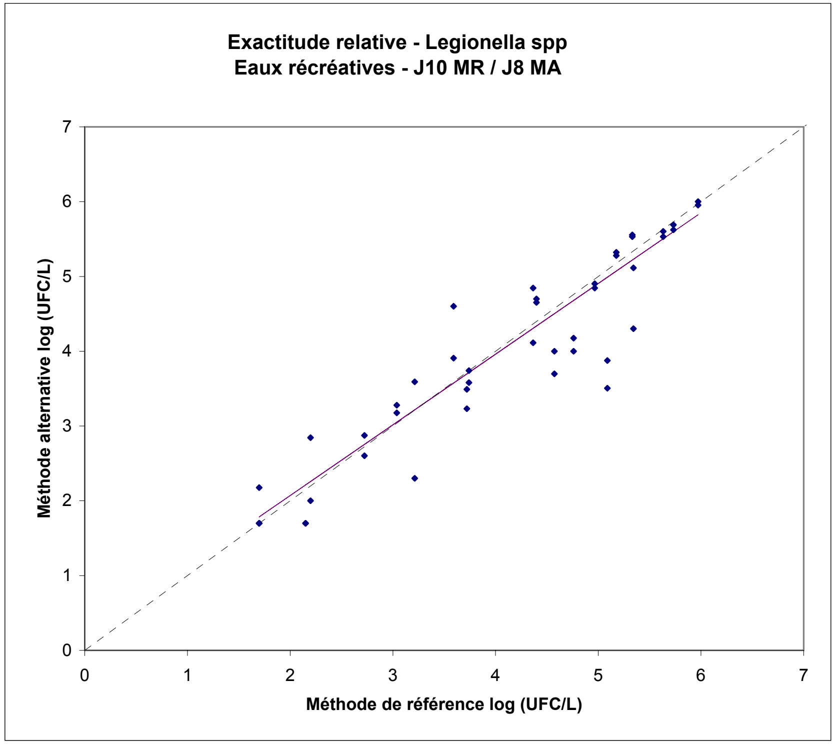
r= 0,963
b= 0,945
a= 0,179

Res. SD= 0,500

S(b)= 0,057 **p(t;b=1)=** 0,341 **t(b)=** 0,963
S(a)= 0,237 **p(t;a=0)=** 0,454 **t(a)=** 0,756

Répétabilité	Méthode de référence	Méthode alternative
r	0,791	0,919
rob. r	0,193	0,494

Mx	Alt	Est Y	Déviation
1,699	2,176	1,785	0,391
5,632	5,531	5,504	0,028
1,699	1,699	1,785	-0,086
5,732	5,623	5,598	0,026
4,965	4,903	4,873	0,031
3,213	2,301	3,216	-0,915
4,573	4,000	4,502	-0,502
4,398	4,653	4,337	0,316
3,591	3,908	3,574	0,335
2,199	2,845	2,258	0,587
5,972	5,954	5,825	0,129
5,088	3,505	4,989	-1,484
5,175	5,322	5,071	0,251
4,759	4,176	4,678	-0,502
2,724	2,602	2,754	-0,152
5,343	5,114	5,230	-0,116
3,740	3,740	3,715	0,025
2,151	1,699	2,212	-0,513
3,038	3,279	3,051	0,228
4,366	4,845	4,307	0,538
3,720	3,491	3,696	-0,205
5,331	5,556	5,219	0,337
1,699	1,699	1,785	-0,086
5,632	5,602	5,504	0,098
1,699	1,699	1,785	-0,086
5,732	5,690	5,598	0,093
4,965	4,845	4,873	-0,027
3,213	3,591	3,216	0,375
4,573	3,699	4,502	-0,803
4,398	4,699	4,337	0,362
3,591	4,602	3,574	1,028
2,199	2,000	2,258	-0,258
5,972	6,000	5,825	0,175
5,088	3,875	4,989	-1,114
5,175	5,279	5,071	0,207
4,759	4,000	4,678	-0,678
2,724	2,875	2,754	0,121
5,343	4,301	5,230	-0,929
3,740	3,580	3,715	-0,135
2,151	1,699	2,212	-0,513
3,038	3,176	3,051	0,125
4,366	4,114	4,307	-0,193
3,720	3,230	3,696	-0,465
5,331	5,531	5,219	0,312



abscisse = moyenne des répétitions pour chaque échantillon.
ordonnée = données brutes des répétitions pour chaque échantillon

Exactitude relative - Legionella spp - Eaux récréatives - J10 MR / J10 MA

Méthode de référence					Méthode alternative					Différence
Echantillon	Répétition 1	Répétition 2	M	SD	Echantillon	Répétition 1	Répétition 2	M	SD	
1	1,699	1,699	1,699	0,000	1	2,176	1,699	1,938	0,337	0,239
2	5,663	5,602	5,632	0,043	2	5,531	5,602	5,567	0,050	-0,066
3	1,699	1,699	1,699	0,000	3	1,699	1,699	1,699	0,000	0,000
4	5,756	5,708	5,732	0,034	4	5,623	5,690	5,657	0,047	-0,075
5	5,000	4,929	4,965	0,050	5	4,903	4,845	4,874	0,041	-0,091
6	2,813	3,613	3,213	0,566	6	2,301	3,591	2,946	0,912	-0,267
7	4,544	4,602	4,573	0,041	7	4,000	3,699	3,849	0,213	-0,724
8	4,398	4,398	4,398	0,000	8	4,653	4,699	4,676	0,032	0,278
9	3,580	3,602	3,591	0,016	9	3,908	4,602	4,255	0,490	0,664
10	2,699	1,699	2,199	0,707	10	2,845	2,000	2,423	0,598	0,224
11	5,944	6,000	5,972	0,039	11	5,954	6,000	5,977	0,032	0,005
12	3,114	3,204	3,159	0,064	12	3,505	3,875	3,690	0,262	0,531
13	5,204	5,146	5,175	0,041	13	5,322	5,279	5,300	0,031	0,125
14	4,778	4,740	4,759	0,027	14	4,176	4,000	4,088	0,125	-0,671
15	2,602	2,845	2,724	0,172	15	2,602	2,875	2,739	0,193	0,015
16	5,756	4,929	5,343	0,584	16	5,114	4,301	4,707	0,575	-0,635
17	3,681	3,799	3,740	0,084	17	3,740	3,580	3,660	0,114	-0,080
18	2,301	2,000	2,151	0,213	18	1,699	1,699	1,699	0,000	-0,452
19	2,929	3,146	3,038	0,153	19	3,279	3,176	3,227	0,073	0,190
20	4,778	3,954	4,366	0,583	20	4,845	4,114	4,480	0,517	0,113
21	3,978	3,462	3,720	0,364	21	3,491	3,230	3,361	0,184	-0,359
22	5,301	5,362	5,331	0,043	22	5,556	5,531	5,544	0,018	0,213

q= 22 **Mx=** 3,963 **My=** 3,925 **M=** -0,037
n= 2 **MEDx=** 4,053 **MEDy=** 3,969 **MED=** 0,002
N=qn= 44 **SDbx=** 1,346 **SDby=** 1,316 Biais
MEDwx = 0,046 **MEDwy =** 0,119
SDwx= 0,283 **SDwy=** 0,328
rob. SDwx= 0,069 **rob. SDwy=** 0,176

Choix de la méthode
OLS1

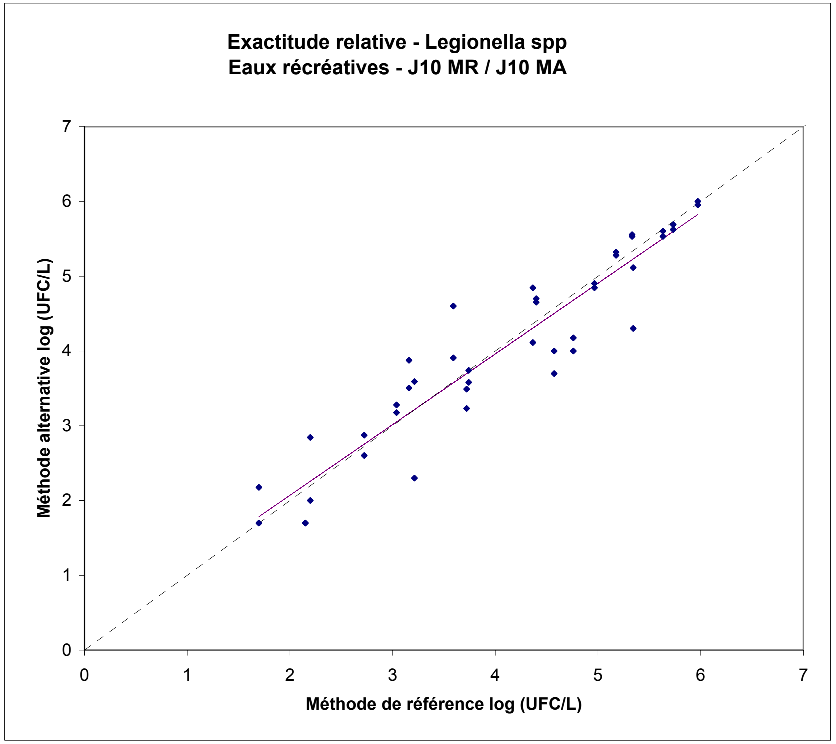
R= 1,162
rob. R= 2,565
Sx= 1,346
Sy= 1,321

r= 0,963
b= 0,945
a= 0,179 **Res. SD=** 0,428

S(b)= 0,048 **p(t;b=1)=** 0,266 **t(b)=** 1,127
S(a)= 0,203 **p(t;a=0)=** 0,382 **t(a)=** 0,884

Répétabilité	Méthode de référence	Méthode alternative
r	0,791	0,919
rob. r	0,193	0,494

Mx	Alt	Est Y	Déviation
1,699	2,176	1,785	0,391
5,632	5,531	5,504	0,028
1,699	1,699	1,785	-0,086
5,732	5,623	5,598	0,026
4,965	4,903	4,873	0,031
3,213	2,301	3,216	-0,915
4,573	4,000	4,502	-0,502
4,398	4,653	4,337	0,316
3,591	3,908	3,574	0,335
2,199	2,845	2,258	0,587
5,972	5,954	5,825	0,129
3,159	3,505	3,166	0,340
5,175	5,322	5,071	0,251
4,759	4,176	4,678	-0,502
2,724	2,602	2,754	-0,152
5,343	5,114	5,230	-0,116
3,740	3,740	3,715	0,025
2,151	1,699	2,212	-0,513
3,038	3,279	3,051	0,228
4,366	4,845	4,307	0,538
3,720	3,491	3,696	-0,205
5,331	5,556	5,219	0,337
1,699	1,699	1,785	-0,086
5,632	5,602	5,504	0,098
1,699	1,699	1,785	-0,086
5,732	5,690	5,598	0,093
4,965	4,845	4,873	-0,027
3,213	3,591	3,216	0,375
4,573	3,699	4,502	-0,803
4,398	4,699	4,337	0,362
3,591	4,602	3,574	1,028
2,199	2,000	2,258	-0,258
5,972	6,000	5,825	0,175
3,159	3,875	3,166	0,710
5,175	5,279	5,071	0,207
4,759	4,000	4,678	-0,678
2,724	2,875	2,754	0,121
5,343	4,301	5,230	-0,929
3,740	3,580	3,715	-0,135
2,151	1,699	2,212	-0,513
3,038	3,176	3,051	0,125
4,366	4,114	4,307	-0,193
3,720	3,230	3,696	-0,465
5,331	5,531	5,219	0,312



<u>abscisse</u> = moyenne des répétitions pour chaque échantillon.
<u>ordonnée</u> = données brutes des répétitions pour chaque échantillon

Relative accuracy - Legionella spp - All categories - J10 MR / J5 MA

Méthode de référence					Méthode alternative					Différence
Echantillon	Répétition 1	Répétition 2	M	SD	Echantillon	Répétition 1	Répétition 2	M	SD	
1	1,699	1,699	1,699	0,000	1	2,176	1,699	1,938	0,337	0,239
2	5,663	5,602	5,632	0,043	2	5,531	5,602	5,567	0,050	-0,066
3	1,699	1,699	1,699	0,000	3	1,699	1,699	1,699	0,000	0,000
4	5,756	5,708	5,732	0,034	4	5,591	5,681	5,636	0,064	-0,096
5	5,000	4,929	4,965	0,050	5	4,875	4,813	4,844	0,044	-0,121
6	2,813	3,613	3,213	0,566	6	2,176	3,591	2,884	1,001	-0,329
7	4,544	4,602	4,573	0,041	7	3,699	3,699	3,699	0,000	-0,874
8	4,398	4,398	4,398	0,000	8	4,398	4,398	4,398	0,000	0,000
9	3,580	3,602	3,591	0,016	9	3,785	4,477	4,131	0,489	0,540
10	2,699	1,699	2,199	0,707	10	2,778	1,699	2,239	0,763	0,040
11	5,944	6,000	5,972	0,039	11	5,944	5,978	5,961	0,024	-0,011
12	3,176	3,204	3,190	0,020	12	3,462	3,863	3,663	0,283	0,473
13	5,204	5,146	5,175	0,041	13	5,322	5,279	5,300	0,031	0,125
14	4,778	4,740	4,759	0,027	14	4,176	3,699	3,938	0,337	-0,822
15	2,602	2,845	2,724	0,172	15	2,544	2,875	2,710	0,234	-0,014
16	5,756	4,929	5,343	0,584	16	4,954	4,176	4,565	0,550	-0,777
17	3,681	3,799	3,740	0,084	17	3,623	3,580	3,602	0,031	-0,139
18	2,301	2,000	2,151	0,213	18	1,699	1,699	1,699	0,000	-0,452
19	2,929	3,146	3,038	0,153	19	3,255	3,176	3,216	0,056	0,178
20	4,778	3,954	4,366	0,583	20	4,845	4,114	4,480	0,517	0,113
21	3,978	3,462	3,720	0,364	21	3,204	2,813	3,009	0,277	-0,712
22	5,301	5,362	5,331	0,043	22	4,477	4,544	4,511	0,047	-0,821
23	2,699	2,699	2,699	0,000	22	2,699	2,176	2,438	0,370	-0,261
24	4,041	4,398	4,220	0,252	22	4,544	4,477	4,511	0,047	0,291
25	5,863	5,857	5,860	0,004	22	5,982	5,892	5,937	0,064	0,077
26	3,079	3,204	3,142	0,088	22	2,699	2,778	2,739	0,056	-0,403
27	2,602	3,415	3,009	0,575	22	2,602	3,041	2,822	0,311	-0,187
28	5,279	5,146	5,212	0,094	22	4,934	4,929	4,932	0,004	-0,280
29	5,708	6,079	5,893	0,263	22	5,699	6,255	5,977	0,393	0,084
30	6,806	6,732	6,769	0,052	22	6,763	6,839	6,801	0,053	0,032
31	6,079	5,954	6,017	0,088	22	5,919	6,146	6,033	0,161	0,016
32	4,778	5,681	5,230	0,639	22	5,568	5,556	5,562	0,008	0,333
33	4,602	4,813	4,707	0,149	22	4,398	4,699	4,548	0,213	-0,159
34	5,255	5,663	5,459	0,288	22	5,839	5,771	5,805	0,048	0,346
35	6,322	5,881	6,102	0,312	22	6,230	6,301	6,266	0,050	0,164
36	5,279	5,230	5,255	0,034	22	5,146	5,322	5,234	0,125	-0,020
37	3,000	3,041	3,021	0,029	22	2,954	2,845	2,900	0,077	-0,121
38	5,833	5,763	5,798	0,049	22	5,740	5,806	5,773	0,047	-0,025
39	4,978	4,875	4,926	0,073	22	4,875	4,929	4,902	0,038	-0,024
40	2,778	2,778	2,778	0,000	22	3,114	3,041	3,078	0,051	0,300
41	3,204	3,255	3,230	0,036	22	3,301	3,255	3,278	0,032	0,048
42	5,362	4,477	4,919	0,626	22	4,653	4,544	4,599	0,077	-0,321
43	1,699	2,301	2,000	0,426	22	1,699	2,477	2,088	0,550	0,088
44	2,000	1,699	1,849	0,213	22	2,176	1,699	1,938	0,337	0,088
45	2,176	2,000	2,088	0,125	22	2,398	2,000	2,199	0,281	0,111
46	5,690	5,633	5,662	0,040	22	5,580	5,699	5,639	0,084	-0,022
47	5,681	5,681	5,681	0,000	22	5,653	5,763	5,708	0,078	0,027
48	3,944	3,204	3,574	0,524	22	3,301	3,322	3,312	0,015	-0,263
49	5,380	5,279	5,329	0,072	22	5,556	5,342	5,449	0,151	0,120
50	5,690	5,633	5,662	0,040	22	5,580	5,681	5,631	0,072	-0,031
51	2,740	2,653	2,697	0,062	22	2,699	2,778	2,739	0,056	0,042
52	2,398	2,813	2,605	0,293	22	2,602	2,778	2,690	0,125	0,085
53	2,398	2,398	2,398	0,000	22	2,813	2,653	2,733	0,113	0,335
54	3,176	3,176	3,176	0,000	22	3,643	3,255	3,449	0,274	0,273
55	2,978	2,954	2,966	0,017	22	2,954	2,875	2,915	0,056	-0,051
56	3,903	4,398	4,151	0,350	22	4,255	4,398	4,327	0,101	0,176
57	4,778	4,740	4,759	0,027	22	4,778	4,845	4,812	0,047	0,052
58	4,813	4,778	4,796	0,025	22	4,875	5,041	4,958	0,118	0,163
59	2,000	2,000	2,000	0,000	22	2,301	1,699	2,000	0,426	0,000
60	4,845	5,041	4,943	0,139	22	4,954	4,740	4,847	0,151	-0,096
61	3,699	3,724	3,712	0,018	22	3,531	3,415	3,473	0,082	-0,238
62	5,839	5,114	5,476	0,513	22	5,763	5,176	5,470	0,415	-0,007

q= 62
n= 2
N=qn= 124

Mx= 4,145
MEDx= 4,382
SDbx= 1,388
MEDwx = 0,057
SDwx= 0,263
rob. SDwx= 0,084

My= 4,100
MEDy= 4,362
SDby= 1,388
MEDwy = 0,078
SDwy= 0,267
rob. SDwy= 0,115

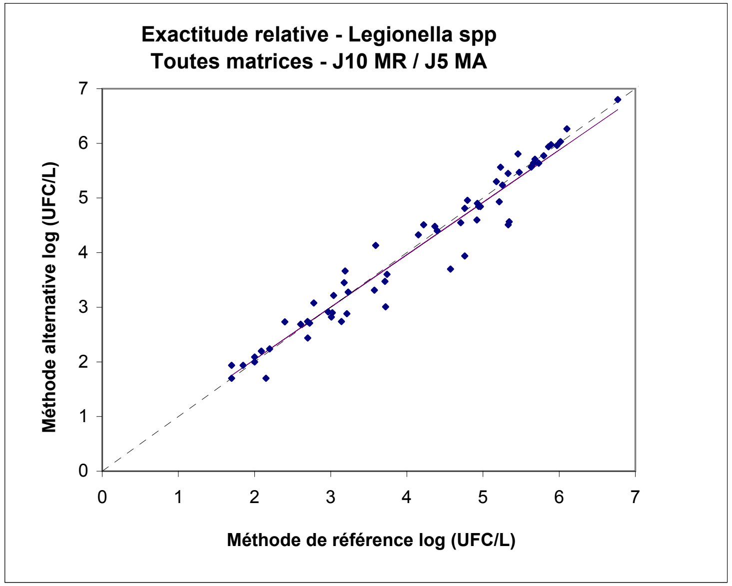
M= -0,045
MED= 0,000
Biais

Choix de la méthode
GMFR

R=	1,016				
rob. R=	1,363				
		Sx=	1,345		
		Sy=	1,290		
r=	0,951				
b=	0,959	**Res. SEM=**	0,250		
a=	0,125	**Res. SD=**	0,353		
S(b)=	0,024	**p(t;b=1)=**	0,088	**t(b)=**	1,719
S(a)=	0,144	**p(t;a=0)=**	0,390	**t(a)=**	0,862

Répétabilité	Méthode de référence	Méthode alternative
r	0,735	0,747
rob. r	0,236	0,322

Les points représentés correspondent aux moyennes des répétitions de chaque échantillon



Est. y	Dév.
1,754	0,183
5,527	0,040
1,754	-0,055
5,622	0,014
4,886	-0,042
3,206	-0,322
4,511	-0,812
4,343	0,055
3,569	0,563
2,234	0,005
5,853	0,109
3,184	0,479
5,088	0,212
4,689	-0,752
2,737	-0,027
5,249	-0,684
3,712	-0,110
2,187	-0,488
3,038	0,178
4,312	0,167
3,693	-0,684
5,238	-0,727
2,713	-0,276
4,172	0,339
5,745	0,192
3,138	-0,399
3,010	-0,188
5,124	-0,192
5,777	0,200
6,617	0,184
5,895	0,137
5,140	0,422
4,640	-0,091
5,360	0,445
5,977	0,289
5,164	0,070
3,022	-0,122
5,685	0,088
4,850	0,053
2,789	0,289
3,222	0,056
4,843	-0,244
2,043	0,045
1,898	0,039
2,127	0,072
5,555	0,085
5,573	0,135
3,553	-0,241
5,236	0,213
5,555	0,076
2,711	0,027
2,623	0,067
2,424	0,309
3,171	0,279
2,969	-0,055
4,105	0,221
4,689	0,122
4,724	0,234
2,043	-0,043
4,866	-0,018
3,684	-0,211
5,377	0,093

Relative accuracy - Legionella spp - All categories - J10 MR / J8 MA

Méthode de référence					Méthode alternative					Différence
Echantillon	Répétition 1	Répétition 2	M	SD	Echantillon	Répétition 1	Répétition 2	M	SD	
1	1,699	1,699	1,699	0,000	1	2,176	1,699	1,938	0,337	0,239
2	5,663	5,602	5,632	0,043	2	5,531	5,602	5,567	0,050	-0,066
3	1,699	1,699	1,699	0,000	3	1,699	1,699	1,699	0,000	0,000
4	5,756	5,708	5,732	0,034	4	5,623	5,690	5,657	0,047	-0,075
5	5,000	4,929	4,965	0,050	5	4,903	4,845	4,874	0,041	-0,091
6	2,813	3,613	3,213	0,566	6	2,301	3,591	2,946	0,912	-0,267
7	4,544	4,602	4,573	0,041	7	4,000	3,699	3,849	0,213	-0,724
8	4,398	4,398	4,398	0,000	8	4,653	4,699	4,676	0,032	0,278
9	3,580	3,602	3,591	0,016	9	3,908	4,602	4,255	0,490	0,664
10	2,699	1,699	2,199	0,707	10	2,845	2,000	2,423	0,598	0,224
11	5,944	6,000	5,972	0,039	11	5,954	6,000	5,977	0,032	0,005
12	3,176	3,204	3,190	0,020	12	3,505	3,875	3,690	0,262	0,500
13	5,204	5,146	5,175	0,041	13	5,322	5,279	5,300	0,031	0,125
14	4,778	4,740	4,759	0,027	14	4,176	4,000	4,088	0,125	-0,671
15	2,602	2,845	2,724	0,172	15	2,602	2,875	2,739	0,193	0,015
16	5,756	4,929	5,343	0,584	16	5,114	4,301	4,707	0,575	-0,635
17	3,681	3,799	3,740	0,084	17	3,740	3,580	3,660	0,114	-0,080
18	2,301	2,000	2,151	0,213	18	1,699	1,699	1,699	0,000	-0,452
19	2,929	3,146	3,038	0,153	19	3,279	3,176	3,227	0,073	0,190
20	4,778	3,954	4,366	0,583	20	4,845	4,114	4,480	0,517	0,113
21	3,978	3,462	3,720	0,364	21	3,491	3,230	3,361	0,184	-0,359
22	5,301	5,362	5,331	0,043	22	5,556	5,531	5,544	0,018	0,213
23	2,699	2,699	2,699	0,000	22	2,699	2,176	2,438	0,370	-0,261
24	4,041	4,398	4,220	0,252	22	4,544	4,477	4,511	0,047	0,291
25	5,863	5,857	5,860	0,004	22	5,982	5,924	5,953	0,041	0,093
26	3,079	3,204	3,142	0,088	22	2,699	2,778	2,739	0,056	-0,403
27	2,602	3,415	3,009	0,575	22	2,602	3,079	2,841	0,337	-0,168
28	5,279	5,146	5,212	0,094	22	4,959	4,929	4,944	0,021	-0,268
29	5,708	6,079	5,893	0,263	22	5,771	6,255	6,013	0,343	0,120
30	6,806	6,732	6,769	0,052	22	6,763	6,839	6,801	0,053	0,032
31	6,079	5,954	6,017	0,088	22	5,919	6,146	6,033	0,161	0,016
32	4,778	5,681	5,230	0,639	22	5,568	5,556	5,562	0,008	0,333
33	4,602	4,813	4,707	0,149	22	4,398	4,699	4,548	0,213	-0,159
34	5,255	5,663	5,459	0,288	22	5,839	5,771	5,805	0,048	0,346
35	6,322	5,881	6,102	0,312	22	6,230	6,301	6,266	0,050	0,164
36	5,279	5,230	5,255	0,034	22	5,146	5,322	5,234	0,125	-0,020
37	3,000	3,041	3,021	0,029	22	2,954	2,845	2,900	0,077	-0,121
38	5,833	5,763	5,798	0,049	22	5,740	5,806	5,773	0,047	-0,025
39	4,978	4,875	4,926	0,073	22	4,875	4,929	4,902	0,038	-0,024
40	2,778	2,778	2,778	0,000	22	3,114	3,079	3,097	0,025	0,318
41	3,204	3,255	3,230	0,036	22	3,322	3,415	3,369	0,066	0,139
42	5,362	4,477	4,919	0,626	22	4,699	4,602	4,651	0,069	-0,269
43	1,699	2,301	2,000	0,426	22	1,699	2,602	2,151	0,639	0,151
44	2,000	1,699	1,849	0,213	22	2,176	1,699	1,938	0,337	0,088
45	2,176	2,000	2,088	0,125	22	2,477	2,000	2,239	0,337	0,151
46	5,690	5,633	5,662	0,040	22	5,580	5,699	5,639	0,084	-0,022
47	5,681	5,681	5,681	0,000	22	5,653	5,763	5,708	0,078	0,027
48	3,944	3,204	3,574	0,524	22	3,301	3,322	3,312	0,015	-0,263
49	5,380	5,279	5,329	0,072	22	5,556	5,342	5,449	0,151	0,120
50	5,690	5,633	5,662	0,040	22	5,580	5,681	5,631	0,072	-0,031
51	2,740	2,653	2,697	0,062	22	2,699	2,778	2,739	0,056	0,042
52	2,398	2,813	2,605	0,293	22	2,653	2,778	2,716	0,088	0,110
53	2,398	2,398	2,398	0,000	22	2,875	2,699	2,787	0,125	0,389
54	3,176	3,176	3,176	0,000	22	3,643	3,255	3,449	0,274	0,273
55	2,978	2,954	2,966	0,017	22	3,000	2,875	2,938	0,088	-0,028
56	3,903	4,398	4,151	0,350	22	4,398	4,398	4,398	0,000	0,247
57	4,778	4,740	4,759	0,027	22	4,778	4,845	4,812	0,047	0,052
58	4,813	4,778	4,796	0,025	22	4,875	5,079	4,977	0,144	0,182
59	2,000	2,000	2,000	0,000	22	2,301	1,699	2,000	0,426	0,000
60	4,845	5,041	4,943	0,139	22	4,954	4,740	4,847	0,151	-0,096
61	3,699	3,724	3,712	0,018	22	3,568	3,462	3,515	0,075	-0,196
62	5,839	5,114	5,476	0,513	22	5,763	5,204	5,484	0,395	0,007

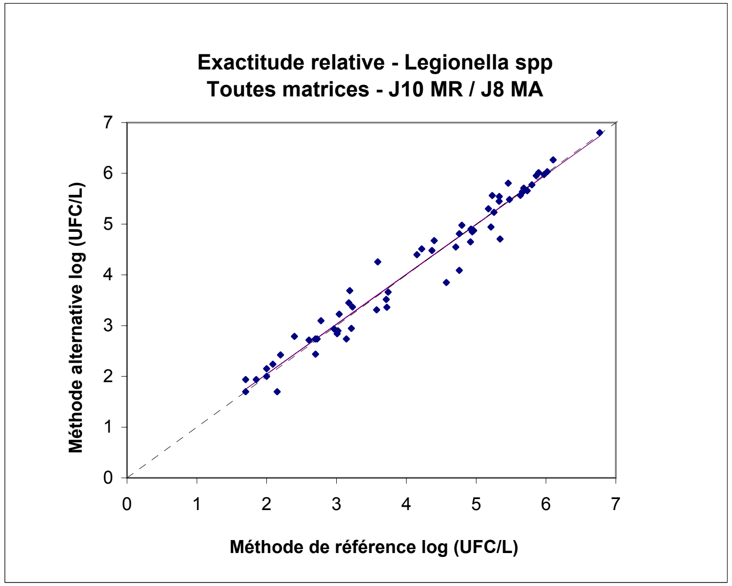
q=	62	**Mx=**	4,145		**My=**	4,153			**M=**	0,008
n=	2	**MEDx=**	4,382		**MEDy=**	4,439			**MED=**	0,015
N=qn=	124	**SDbx=**	1,388		**SDby=**	1,388				Biais
		MEDwx =		0,057		**MEDwy =**	0,081			
		SDwx=		0,263		**SDwy=**	0,255			
		rob. SDwx=		0,084		**rob. SDwy=**	0,120			

Choix de la méthode
GMFR

	R=	0,971			
	rob. R=	1,425			
			Sx=	1,345	
			Sy=	1,321	
r=	0,963				
b=	0,983		**Res. SEM=**	0,214	
a=	0,080		**Res. SD=**	0,303	
S(b)=	0,020	**p(t;b=1)=**	0,395	**t(b)=**	0,853
S(a)=	0,124	**p(t;a=0)=**	0,520	**t(a)=**	0,645

Répétabilité	Méthode de référence	Méthode alternative
r	0,735	0,714
rob. r	0,236	0,337

Les points représentés correspondent aux moyennes des répétitions de chaque échantillon



Est. y	Dév.
1,749	0,188
5,614	-0,048
1,749	-0,050
5,712	-0,055
4,958	-0,084
3,237	-0,291
4,573	-0,724
4,401	0,275
3,608	0,647
2,241	0,182
5,948	0,029
3,214	0,476
5,165	0,136
4,756	-0,668
2,756	-0,017
5,330	-0,622
3,755	-0,095
2,193	-0,494
3,065	0,163
4,370	0,109
3,735	-0,374
5,319	0,225
2,732	-0,294
4,226	0,284
5,838	0,115
3,167	-0,428
3,036	-0,195
5,202	-0,257
5,871	0,142
6,731	0,070
5,992	0,041
5,219	0,344
4,705	-0,157
5,444	0,361
6,075	0,190
5,243	-0,009
3,048	-0,148
5,777	-0,004
4,921	-0,018
2,810	0,287
3,253	0,115
4,914	-0,263
2,045	0,105
1,897	0,040
2,132	0,107
5,643	-0,004
5,662	0,046
3,592	-0,280
5,317	0,133
5,643	-0,013
2,730	0,009
2,640	0,076
2,436	0,351
3,201	0,249
2,994	-0,057
4,158	0,240
4,756	0,055
4,792	0,185
2,045	-0,045
4,937	-0,090
3,727	-0,212
5,461	0,023

Relative accuracy - Legionella spp - All categories - J10 MR / J10 MA

Méthode de référence					Méthode alternative					Différence
Echantillon	Répétition 1	Répétition 2	M	SD	Echantillon	Répétition 1	Répétition 2	M	SD	
1	1,699	1,699	1,699	0,000	1	2,176	1,699	1,938	0,337	0,239
2	5,663	5,602	5,632	0,043	2	5,531	5,602	5,567	0,050	-0,066
3	1,699	1,699	1,699	0,000	3	1,699	1,699	1,699	0,000	0,000
4	5,756	5,708	5,732	0,034	4	5,623	5,690	5,657	0,047	-0,075
5	5,000	4,929	4,965	0,050	5	4,903	4,845	4,874	0,041	-0,091
6	2,813	3,613	3,213	0,566	6	2,301	3,591	2,946	0,912	-0,267
7	4,544	4,602	4,573	0,041	7	4,000	3,699	3,849	0,213	-0,724
8	4,398	4,398	4,398	0,000	8	4,653	4,699	4,676	0,032	0,278
9	3,580	3,602	3,591	0,016	9	3,908	4,602	4,255	0,490	0,664
10	2,699	1,699	2,199	0,707	10	2,845	2,000	2,423	0,598	0,224
11	5,944	6,000	5,972	0,039	11	5,954	6,000	5,977	0,032	0,005
12	3,176	3,204	3,190	0,020	12	3,505	3,875	3,690	0,262	0,500
13	5,204	5,146	5,175	0,041	13	5,322	5,279	5,300	0,031	0,125
14	4,778	4,740	4,759	0,027	14	4,176	4,000	4,088	0,125	-0,671
15	2,602	2,845	2,724	0,172	15	2,602	2,875	2,739	0,193	0,015
16	5,756	4,929	5,343	0,584	16	5,114	4,301	4,707	0,575	-0,635
17	3,681	3,799	3,740	0,084	17	3,740	3,580	3,660	0,114	-0,080
18	2,301	2,000	2,151	0,213	18	1,699	1,699	1,699	0,000	-0,452
19	2,929	3,146	3,038	0,153	19	3,279	3,176	3,227	0,073	0,190
20	4,778	3,954	4,366	0,583	20	4,845	4,114	4,480	0,517	0,113
21	3,978	3,462	3,720	0,364	21	3,491	3,230	3,361	0,184	-0,359
22	5,301	5,362	5,331	0,043	22	5,556	5,531	5,544	0,018	0,213
23	2,699	2,699	2,699	0,000	22	2,699	2,176	2,438	0,370	-0,261
24	4,041	4,398	4,220	0,252	22	4,544	4,477	4,511	0,047	0,291
25	5,863	5,857	5,860	0,004	22	5,982	5,924	5,953	0,041	0,093
26	3,079	3,204	3,142	0,088	22	2,699	2,778	2,739	0,056	-0,403
27	2,602	3,415	3,009	0,575	22	2,602	3,079	2,841	0,337	-0,168
28	5,279	5,146	5,212	0,094	22	4,959	4,929	4,944	0,021	-0,268
29	5,708	6,079	5,893	0,263	22	5,771	6,255	6,013	0,343	0,120
30	6,806	6,732	6,769	0,052	22	6,763	6,839	6,801	0,053	0,032
31	6,079	5,954	6,017	0,088	22	5,919	6,146	6,033	0,161	0,016
32	4,778	5,681	5,230	0,639	22	5,568	5,556	5,562	0,008	0,333
33	4,602	4,813	4,707	0,149	22	4,398	4,699	4,548	0,213	-0,159
34	5,255	5,663	5,459	0,288	22	5,839	5,771	5,805	0,048	0,346
35	6,322	5,881	6,102	0,312	22	6,230	6,301	6,266	0,050	0,164
36	5,279	5,230	5,255	0,034	22	5,146	5,322	5,234	0,125	-0,020
37	3,000	3,041	3,021	0,029	22	2,954	2,845	2,900	0,077	-0,121
38	5,833	5,763	5,798	0,049	22	5,740	5,806	5,773	0,047	-0,025
39	4,978	4,875	4,926	0,073	22	4,875	4,929	4,902	0,038	-0,024
40	2,778	2,778	2,778	0,000	22	3,114	3,079	3,097	0,025	0,318
41	3,204	3,255	3,230	0,036	22	3,322	3,415	3,369	0,066	0,139
42	5,362	4,477	4,919	0,626	22	4,699	4,602	4,651	0,069	-0,269
43	1,699	2,301	2,000	0,426	22	1,699	2,602	2,151	0,639	0,151
44	2,000	1,699	1,849	0,213	22	2,176	1,699	1,938	0,337	0,088
45	2,176	2,000	2,088	0,125	22	2,477	2,000	2,239	0,337	0,151
46	5,690	5,633	5,662	0,040	22	5,580	5,699	5,639	0,084	-0,022
47	5,681	5,681	5,681	0,000	22	5,653	5,763	5,708	0,078	0,027
48	3,944	3,204	3,574	0,524	22	3,301	3,322	3,312	0,015	-0,263
49	5,380	5,279	5,329	0,072	22	5,556	5,342	5,449	0,151	0,120
50	5,690	5,633	5,662	0,040	22	5,580	5,681	5,631	0,072	-0,031
51	2,740	2,653	2,697	0,062	22	2,699	2,778	2,739	0,056	0,042
52	2,398	2,813	2,605	0,293	22	2,653	2,778	2,716	0,088	0,110
53	2,398	2,398	2,398	0,000	22	2,875	2,699	2,787	0,125	0,389
54	3,176	3,176	3,176	0,000	22	3,633	3,255	3,444	0,267	0,268
55	2,978	2,954	2,966	0,017	22	3,000	2,875	2,938	0,088	-0,028
56	3,903	4,398	4,151	0,350	22	4,255	4,398	4,327	0,101	0,176
57	4,778	4,740	4,759	0,027	22	4,778	4,845	4,812	0,047	0,052
58	4,813	4,778	4,796	0,025	22	4,875	5,079	4,977	0,144	0,182
59	2,000	2,000	2,000	0,000	22	2,301	1,699	2,000	0,426	0,000
60	4,845	5,041	4,943	0,139	22	4,954	4,740	4,847	0,151	-0,096
61	3,699	3,724	3,712	0,018	22	3,568	3,477	3,523	0,064	-0,189
62	5,839	5,114	5,476	0,513	22	5,763	5,204	5,484	0,395	0,007

q= 62	**Mx=**	4,145		**My=**	4,151			**M=**	0,007
n= 2	**MEDx=**	4,382		**MEDy=**	4,403			**MED=**	0,015
N=qn= 124	**SDbx=**	1,388		**SDby=**	1,388			Biais	
	MEDwx =		0,057		**MEDwy =**	0,086			
	SDwx=		0,263		**SDwy=**	0,255			
	rob. SDwx=		0,084		**rob. SDwy=**	0,128			

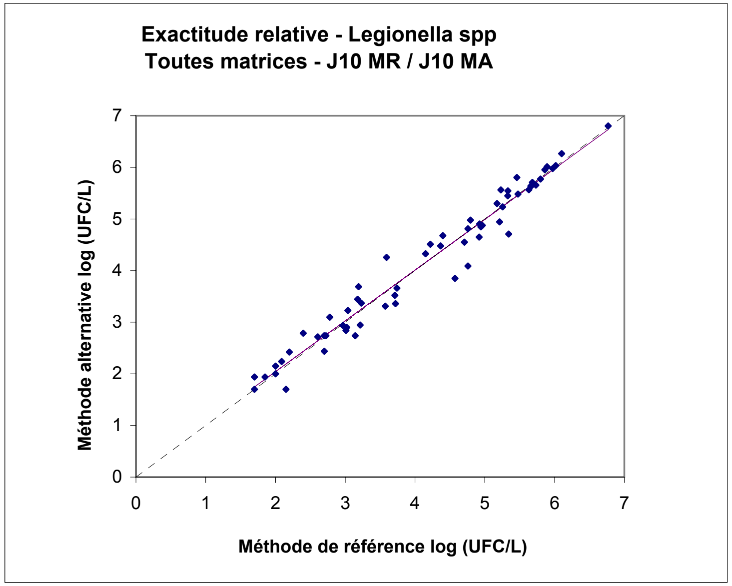
Choix de la méthode

GMFR

R=	0,972				
rob. R=	1,517				
		Sx=	1,345		
		Sy=	1,321		
r=	0,963				
b=	0,983	**Res. SEM=**	0,214		
a=	0,079	**Res. SD=**	0,303		
S(b)=	0,020	**p(t;b=1)=**	0,395	**t(b)=**	0,853
S(a)=	0,124	**p(t;a=0)=**	0,526	**t(a)=**	0,636

Répétabilité	Méthode de référence	Méthode alternative
r	0,735	0,715
rob. r	0,236	0,358

Les points représentés correspondent aux moyennes des répétitions de chaque échantillon



Est. y	Dév.
1,748	0,189
5,613	-0,046
1,748	-0,049
5,711	-0,054
4,957	-0,083
3,236	-0,290
4,572	-0,723
4,400	0,276
3,607	0,648
2,239	0,183
5,947	0,030
3,213	0,477
5,164	0,137
4,755	-0,667
2,755	-0,016
5,328	-0,621
3,754	-0,094
2,192	-0,493
3,064	0,164
4,369	0,111
3,734	-0,373
5,317	0,226
2,731	-0,293
4,225	0,286
5,837	0,116
3,166	-0,427
3,035	-0,194
5,201	-0,256
5,870	0,143
6,730	0,071
5,991	0,042
5,217	0,345
4,704	-0,156
5,443	0,362
6,074	0,192
5,242	-0,008
3,047	-0,147
5,776	-0,003
4,919	-0,017
2,809	0,288
3,252	0,116
4,913	-0,262
2,044	0,107
1,896	0,042
2,130	0,108
5,642	-0,003
5,661	0,047
3,591	-0,279
5,316	0,134
5,642	-0,012
2,729	0,010
2,639	0,077
2,435	0,352
3,200	0,245
2,993	-0,056
4,157	0,170
4,755	0,056
4,791	0,186
2,044	-0,044
4,936	-0,089
3,726	-0,203
5,460	0,024

Appendix 5

Linearity raw results and stats

Linearity - Hot sanitary waters

Souche	Origine	Taux de contamination	Méthode de référence ISO 11731 (mai 1998)						Méthode alternative Legionella MWY					
			R1			R2			R1			R2		
			UFC/L	**Résultats confirmés**		UFC/L	**Résultats confirmés**		UFC/L	**Résultats confirmés**		UFC/L	**Résultats confirmés**	
				UFC/L	***Log 10 (UFC/L)***		**UFC/L**	***Log 10 (UFC/L)***		**UFC/L**	***Log 10 (UFC/L)***		**UFC/L**	***Log 10 (UFC/L)***
LEG.15.1	Legionella longbeachae	J3	1,10E+03	**1,10E+03**	3,041	7,00E+02	**7,00E+02**	2,845	6,50E+02	**6,50E+02**	2,813	4,00E+02	**4,00E+02**	2,602
		J5	1,10E+03	**1,10E+03**	3,041	7,00E+02	**7,00E+02**	2,845	6,50E+02	**6,50E+02**	2,813	4,00E+02	**4,00E+02**	2,602
		J8	1,10E+03	**1,10E+03**	3,041	7,00E+02	**7,00E+02**	2,845	6,50E+02	**6,50E+02**	2,813	4,00E+02	**4,00E+02**	2,602
		J10	1,10E+03	**1,10E+03**	3,041	7,00E+02	**7,00E+02**	2,845	6,50E+02	**6,50E+02**	2,813	4,00E+02	**4,00E+02**	2,602
		J3	1,10E+04	**1,10E+04**	4,041	9,90E+03	**9,90E+03**	3,996	1,30E+04	**1,30E+04**	4,114	1,60E+04	**1,60E+04**	4,204
		J5	1,70E+04	**1,70E+04**	4,230	1,40E+04	**1,40E+04**	4,146	2,00E+04	**2,00E+04**	4,301	2,40E+04	**2,40E+04**	4,380
		J8	1,80E+04	**1,80E+04**	4,255	1,40E+04	**1,40E+04**	4,146	2,00E+04	**2,00E+04**	4,301	2,40E+04	**2,40E+04**	4,380
		J10	1,80E+04	**1,80E+04**	4,255	1,40E+04	**1,40E+04**	4,146	2,00E+04	**2,00E+04**	4,301	2,40E+04	**2,40E+04**	4,380
		J3	1,30E+05	**1,30E+05**	5,114	1,10E+05	**1,10E+05**	5,041	1,30E+05	**1,30E+05**	5,114	1,90E+05	**1,90E+05**	5,279
		J5	1,30E+05	**1,30E+05**	5,114	1,10E+05	**1,10E+05**	5,041	1,30E+05	**1,30E+05**	5,114	1,90E+05	**1,90E+05**	5,279
		J8	1,30E+05	**1,30E+05**	5,114	1,10E+05	**1,10E+05**	5,041	1,30E+05	**1,30E+05**	5,114	1,90E+05	**1,90E+05**	5,279
		J10	1,30E+05	**1,30E+05**	5,114	1,10E+05	**1,10E+05**	5,041	1,30E+05	**1,30E+05**	5,114	1,90E+05	**1,90E+05**	5,279
		J3	8,50E+05	**8,50E+05**	5,929	1,30E+06	**1,30E+06**	6,114	1,30E+06	**1,30E+06**	6,114	1,20E+06	**1,20E+06**	6,079
		J5	8,50E+05	**8,50E+05**	5,929	1,30E+06	**1,30E+06**	6,114	1,30E+06	**1,30E+06**	6,114	1,20E+06	**1,20E+06**	6,079
		J8	8,50E+05	**8,50E+05**	5,929	1,30E+06	**1,30E+06**	6,114	1,30E+06	**1,30E+06**	6,114	1,20E+06	**1,20E+06**	6,079
		J10	8,50E+05	**8,50E+05**	5,929	1,30E+06	**1,30E+06**	6,114	1,30E+06	**1,30E+06**	6,114	1,20E+06	**1,20E+06**	6,079

Linéarité - Legionella pneumophila - Eaux chaudes sanitaires - MA J5 - J8 - J10 / MR J10

Niveau	Méthode de référence Rep.1	Rep.2	M	SD	Méthode alternative Rep.1	Rep.2	M	SD
1	3,041	2,845	2,9	0,139	2,813	2,602	2,7	0,149
2	4,255	4,146	4,2	0,077	4,301	4,380	4,3	0,056
3	5,114	5,041	5,1	0,051	5,114	5,279	5,2	0,117
4	5,929	6,114	6,0	0,130	6,114	6,079	6,1	0,025

Mx = 4,561
MEDx = 4,639
SDbx = 1,310

My = 4,585
MEDy = 4,768
SDby = 1,443

q = 4
n = 2
N = qn = 8

MEDwx = 0,104
SDwx = 0,075
rob. SDwx = 0,154

MEDwy = 0,086
SDwy = 0,070
rob. SDwy = 0,128

Choix méthode
GMFR

R = 0,939
rob.R = 0,831
Res.SEM = 0,148
Res.SD = 0,209

Sx = 1,215
Sy = 1,338

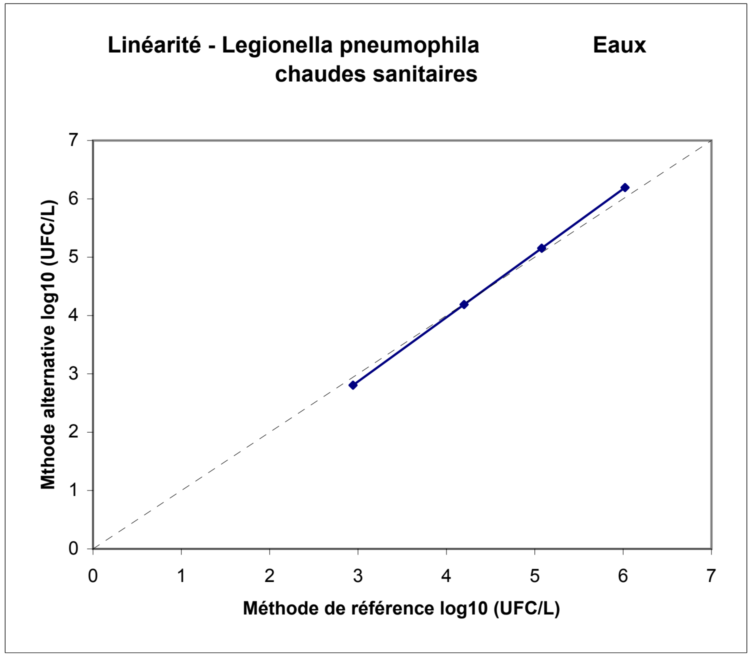
Est y	Déviation
2,805	-0,097
4,189	0,152
5,154	0,042
6,193	-0,097

r = 0,997
b = 1,101
a = -0,435

Sb = 0,070 **p(t;b=1) =** 0,201 **t (b) =** 1,435
Sa = 0,328 **p(t;a=0) =** 0,234 **t (a) =** 4,369

Linéarité

F = 24,469 **p(F) =** 0,006
rob.F = 6,000 **rob.p(F) =** 0,063



Linearity - Cooling tower waters

Souche	Origine	Jours de lecture	Méthode de référence ISO 11731 (mai 1998)						Méthode alternative Legionella MWY					
			R1			R2			R1			R2		
			UFC/L	**Résultats confirmés UFC/L**	***Log 10 (UFC/L)***	UFC/L	**Résultats confirmés UFC/L**	***Log 10 (UFC/L)***	UFC/L	**Résultats confirmés UFC/L**	***Log 10 (UFC/L)***	UFC/L	**Résultats confirmés UFC/L**	***Log 10 (UFC/L)***
Legionella pneumophila sérogroupe 1	Souche Clinique	J3	3,50E+02	**3,50E+02**	2,544	4,00E+02	**4,00E+02**	2,602	4,50E+02	**4,50E+02**	2,653	6,00E+02	**6,00E+02**	2,778
		J4	3,50E+02	**3,50E+02**	2,544	4,00E+02	**4,00E+02**	2,602	4,50E+02	**4,50E+02**	2,653	6,00E+02	**6,00E+02**	2,778
		J8	3,50E+02	**3,50E+02**	2,544	4,00E+02	**4,00E+02**	2,602	4,50E+02	**4,50E+02**	2,653	6,00E+02	**6,00E+02**	2,778
		J10	3,50E+02	**3,50E+02**	2,544	4,00E+02	**4,00E+02**	2,602	4,50E+02	**4,50E+02**	2,653	6,00E+02	**6,00E+02**	2,778
		J3	1,00E+03	**1,00E+03**	3,000	1,20E+03	**1,20E+03**	3,079	2,30E+03	**2,30E+03**	3,362	2,40E+03	**2,40E+03**	3,380
		J5	1,00E+03	**1,00E+03**	3,000	1,20E+03	**1,20E+03**	3,079	2,30E+03	**2,30E+03**	3,362	2,40E+03	**2,40E+03**	3,380
		J8	5,20E+03	**5,20E+03**	3,716	4,50E+03	**4,50E+03**	3,653	1,20E+04	**1,20E+04**	4,079	7,20E+03	**7,20E+03**	3,857
		J10	5,20E+03	**5,20E+03**	3,716	4,50E+03	**4,50E+03**	3,653	1,20E+04	**1,20E+04**	4,079	7,20E+03	**7,20E+03**	3,857
		J3	7,00E+04	**7,00E+04**	4,845	7,50E+04	**7,50E+04**	4,875	1,20E+05	**1,20E+05**	5,079	1,60E+05	**1,60E+05**	5,204
		J5	7,00E+04	**7,00E+04**	4,845	7,50E+04	**7,50E+04**	4,875	1,20E+05	**1,20E+05**	5,079	1,60E+05	**1,60E+05**	5,204
		J8	2,30E+04	**2,30E+04**	4,362	1,50E+05	**1,50E+05**	5,176	3,00E+05	**3,00E+05**	5,477	3,20E+05	**3,20E+05**	5,505
		J10	2,30E+04	**2,30E+04**	4,362	1,50E+05	**1,50E+05**	5,176	3,00E+05	**3,00E+05**	5,477	3,20E+05	**3,20E+05**	5,505
		J3	1,50E+06	**1,50E+06**	6,176	1,40E+06	**1,40E+06**	6,146	1,70E+06	**1,70E+06**	6,230	1,80E+06	**1,80E+06**	6,255
		J5	1,60E+06	**1,60E+06**	6,204	1,60E+06	**1,60E+06**	6,204	1,70E+06	**1,70E+06**	6,230	1,80E+06	**1,80E+06**	6,255
		J8	1,60E+06	**1,60E+06**	6,204	1,60E+06	**1,60E+06**	6,204	1,70E+06	**1,70E+06**	6,230	1,80E+06	**1,80E+06**	6,255
		J10	1,60E+06	**1,60E+06**	6,204	1,60E+06	**1,60E+06**	6,204	1,70E+06	**1,70E+06**	6,230	1,80E+06	**1,80E+06**	6,255

Linéarité - Legionella longbeachae - Eaux de tours aéro-réfrigérantes - MA J5 / MR J10

Niveau	Méthode de référence Rep.1	Rep.2	M	SD	Méthode alternative Rep.1	Rep.2	M	SD
1	2,544	2,602	2,6	0,041	2,653	2,778	2,7	0,088
2	3,716	3,653	3,7	0,044	3,362	3,380	3,4	0,013
3	4,362	5,176	4,8	0,576	5,079	5,204	5,1	0,088
4	6,204	6,204	6,2	0,000	6,230	6,255	6,2	0,018

q = 4
n = 2
N = qn = 8

Mx = 4,308
MEDx = 4,227
SDbx = 1,550

MEDwx = 0,043
SDwx = 0,205
rob. SDwx = 0,063

My = 4,368
MEDy = 4,256
SDby = 1,616

MEDwy = 0,053
SDwy = 0,045
rob. SDwy = 0,079

Choix méthode
GMFR

R = 0,219
rob.R = 1,240
Res.SEM = 0,346
Res.SD = 0,490

Sx = 1,451
Sy = 1,497

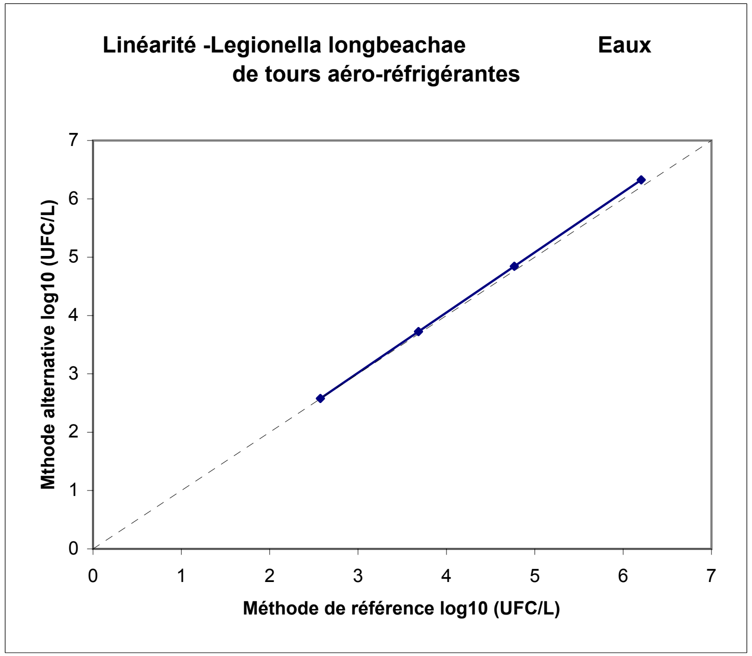
r = 0,985
b = 1,032
a = -0,076

Est y	Déviation
2,579	0,137
3,725	-0,354
4,844	0,298
6,324	-0,081

Sb = 0,138 **p(t;b=1) =** 0,827 **t (b) =** 0,229
Sa = 0,618 **p(t;a=0) =** 0,907 **t (a) =** 1,741

Linéarité

F = 355,503 **p(F) =** 0,000
rob.F = 114,666 **rob.p(F) =** 0,000



Linéarité - Legionella longbeachae - Eaux de tours aéro-réfrigérantes - MA J8-J10 / MR J10

Niveau	Méthode de référence Rep.1	Rep.2	M	SD	Méthode alternative Rep.1	Rep.2	M	SD
1	2,544	2,602	2,6	0,041	2,653	2,778	2,7	0,088
2	3,716	3,653	3,7	0,044	4,079	3,857	4,0	0,157
3	4,362	5,176	4,8	0,576	5,477	5,505	5,5	0,020
4	6,204	6,204	6,2	0,000	6,230	6,255	6,2	0,018

Mx = 4,308
MEDx = 4,227
SDbx = 1,550

My = 4,604
MEDy = 4,730
SDby = 1,575

q = 4
n = 2
N = qn = 8

MEDwx = 0,043
SDwx = 0,205
rob. SDwx = 0,063

MEDwy = 0,054
SDwy = 0,064
rob. SDwy = 0,080

Choix méthode
GMFR

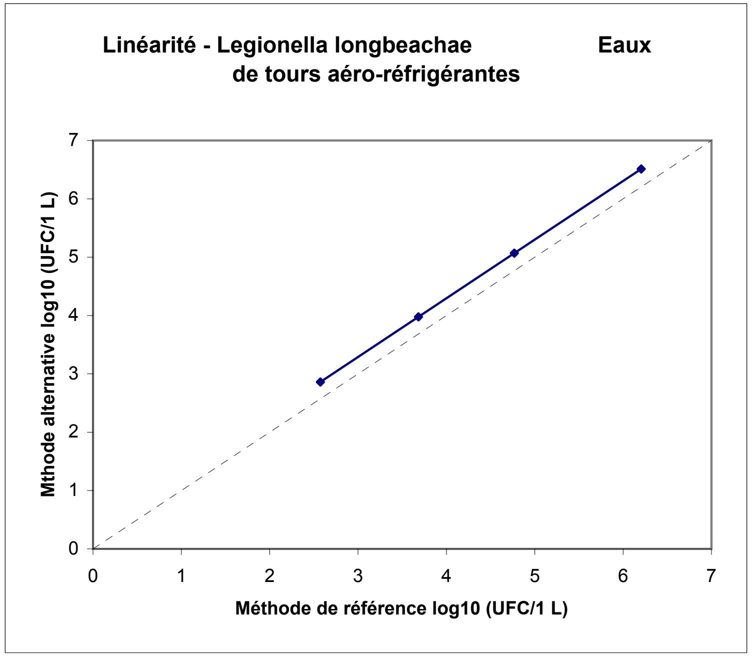
R = 0,314
rob.R = 1,266
Res.SEM = 0,369
Res.SD = 0,522

Sx = 1,451
Sy = 1,460

Est y	Déviation
2,860	-0,144
3,978	-0,010
5,068	0,423
6,512	-0,269

r = 0,982
b = 1,006
a = 0,272

Sb = 0,147 **p(t;b=1) =** 0,970 **t (b) =** 0,039
Sa = 0,658 **p(t;a=0) =** 0,694 **t (a) =** 1,106



Linéarité

F = 195,114 **p(F) =** 0,000
rob.F = 124,907 **rob.p(F) =** 0,000

Linearity - Pool waters

Souche	Origine	Jours de lecture	Méthode de référence ISO 11731 (mai 1998)						Méthode alternative Legionella MWY					
			R1			R2			R1			R2		
			UFC/L	**Résultats confirmés**		UFC/L	**Résultats confirmés**		UFC/L	**Résultats confirmés**		UFC/L	**Résultats confirmés**	
				UFC/L	***Log 10 (UFC/L)***		**UFC/L**	***Log 10 (UFC/L)***		**UFC/L**	***Log 10 (UFC/L)***		**UFC/L**	***Log 10 (UFC/L)***
Legionella pneumophila sérogroupe 1	Souche Clinique	J3	1,30E+03	**1,30E+03**	3,114	3,20E+03	**3,20E+03**	3,505	2,70E+03	**2,70E+03**	3,431	3,30E+03	**3,30E+03**	3,519
		J5	1,30E+03	**1,30E+03**	3,114	3,20E+03	**3,20E+03**	3,505	2,70E+03	**2,70E+03**	3,431	3,30E+03	**3,30E+03**	3,519
		J8	1,30E+03	**1,30E+03**	3,114	3,20E+03	**3,20E+03**	3,505	2,70E+03	**2,70E+03**	3,431	3,40E+03	**3,40E+03**	3,531
		J10	1,30E+03	**1,30E+03**	3,114	3,20E+03	**3,20E+03**	3,505	2,70E+03	**2,70E+03**	3,431	3,40E+03	**3,40E+03**	3,531
		J3	6,50E+04	**6,50E+04**	4,813	6,50E+04	**6,50E+04**	4,813	6,00E+04	**6,00E+04**	4,778	9,50E+04	**9,50E+04**	4,978
		J5	6,50E+04	**6,50E+04**	4,813	6,50E+04	**6,50E+04**	4,813	6,00E+04	**6,00E+04**	4,778	9,50E+04	**9,50E+04**	4,978
		J8	7,50E+04	**7,50E+04**	4,875	7,50E+04	**7,50E+04**	4,875	6,00E+04	**6,00E+04**	4,778	9,50E+04	**9,50E+04**	4,978
		J10	7,50E+04	**7,50E+04**	4,875	7,50E+04	**7,50E+04**	4,875	6,00E+04	**6,00E+04**	4,778	9,50E+04	**9,50E+04**	4,978
		J3	8,70E+05	**8,70E+05**	5,940	7,70E+05	**7,70E+05**	5,886	7,30E+05	**7,30E+05**	5,863	1,00E+06	**1,00E+06**	6,000
		J5	8,70E+05	**8,70E+05**	5,940	7,70E+05	**7,70E+05**	5,886	7,30E+05	**7,30E+05**	5,863	1,00E+06	**1,00E+06**	6,000
		J8	8,70E+05	**8,70E+05**	5,940	7,70E+05	**7,70E+05**	5,886	7,50E+05	**7,50E+05**	5,875	1,00E+06	**1,00E+06**	6,000
		J10	8,70E+05	**8,70E+05**	5,940	7,70E+05	**7,70E+05**	5,886	7,50E+05	**7,50E+05**	5,875	1,00E+06	**1,00E+06**	6,000
		J3	8,10E+06	**8,10E+06**	6,908	8,60E+06	**8,60E+06**	6,934	1,20E+07	**1,20E+06**	6,079	1,20E+07	**1,20E+07**	7,079
		J5	8,10E+06	**8,10E+06**	6,908	8,60E+06	**8,60E+06**	6,934	1,20E+07	**1,20E+06**	6,079	1,20E+07	**1,20E+07**	7,079
		J8	8,10E+06	**8,10E+06**	6,908	8,60E+06	**8,60E+06**	6,934	1,20E+07	**1,20E+06**	6,079	1,20E+07	**1,20E+07**	7,079
		J10	8,10E+06	**8,10E+06**	6,908	8,60E+06	**8,60E+06**	6,934	1,20E+07	**1,20E+06**	6,079	1,20E+07	**1,20E+07**	7,079

Linéarité - Legionella pneumophila - Eaux de piscines -J10 MR / J5 MA

Niveau	Méthode de référence Rep.1	Rep.2	M	SD	Méthode alternative Rep.1	Rep.2	M	SD
1	3,114	3,505	3,310	0,276	3,431	3,519	3,475	0,062
2	4,813	4,813	4,813	0,000	4,778	4,978	4,878	0,141
3	5,940	5,886	5,913	0,038	5,863	6,000	5,932	0,097
4	6,908	6,934	6,921	0,018	6,079	7,079	6,579	0,707

Mx = 5,239
MEDx = 5,363
SDbx = 1,548

My = 5,216
MEDy = 5,405
SDby = 1,356

q = 4
n = 2
N = qn = 8

MEDwx = 0,028
SDwx = 0,099
rob. SDwx = 0,042

MEDwy = 0,119
SDwy = 0,258
rob. SDwy = 0,177

Choix méthode
OLS; x=réf

Sx = 1,437
Sy = 1,285

R = 2,611
rob.R = 4,213

r = 0,997
b = 0,892
a = 0,543

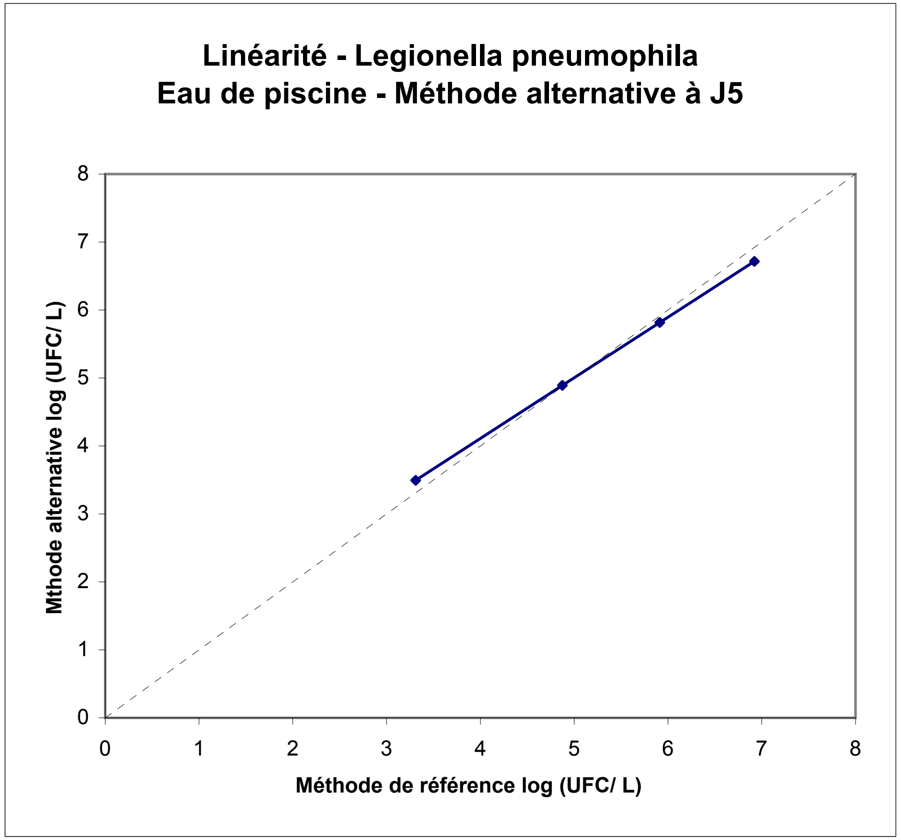
M(Réf.)	**Alt.**	**Est. y**	Déviation
3,310	3,431	3,495	-0,064
4,875	4,778	4,891	-0,113
5,913	5,863	5,817	0,046
6,921	6,079	6,716	-0,637
3,310	3,519	3,495	0,024
4,875	4,978	4,891	0,087
5,913	6,000	5,817	0,183
6,921	7,079	6,716	0,363

Res.SD = 0,316

Sb = 0,083
Sa = 0,449

p(t;b=1) = 0,241
p(t;a=0) = 0,272

t (b) = 1,302
t (a) = 1,210



Linéarité

F = 2,487
rob.F = 7,584

p(F) = 0,199
rob.p(F) = 0,044

Linéarité - Legionella pneumophila- Eaux de piscines - J10 MR / J8-J10 MA

Niveau	Méthode de référence Rep.1	Rep.2	M	SD	Méthode alternative Rep.1	Rep.2	M	SD
1	3,114	3,505	3,310	0,276	3,431	3,531	3,481	0,071
2	4,875	4,875	4,875	0,000	4,778	4,978	4,878	0,141
3	5,940	5,886	5,913	0,038	5,875	6,000	5,938	0,088
4	6,908	6,934	6,921	0,018	6,079	7,079	6,579	0,707

Mx = 5,255
MEDx = 5,394
SDbx = 1,542

My = 5,219
MEDy = 5,408
SDby = 1,354

q = 4
n = 2
N = qn = 8

MEDwx = 0,028
SDwx = 0,099
rob. SDwx = 0,042

MEDwy = 0,115
SDwy = 0,258
rob. SDwy = 0,170

Choix méthode

OLS; x=réf

Sx = 1,432
Sy = 1,284

R = 2,610
rob.R = 4,062

r = 0,997
b = 0,894
a = 0,521

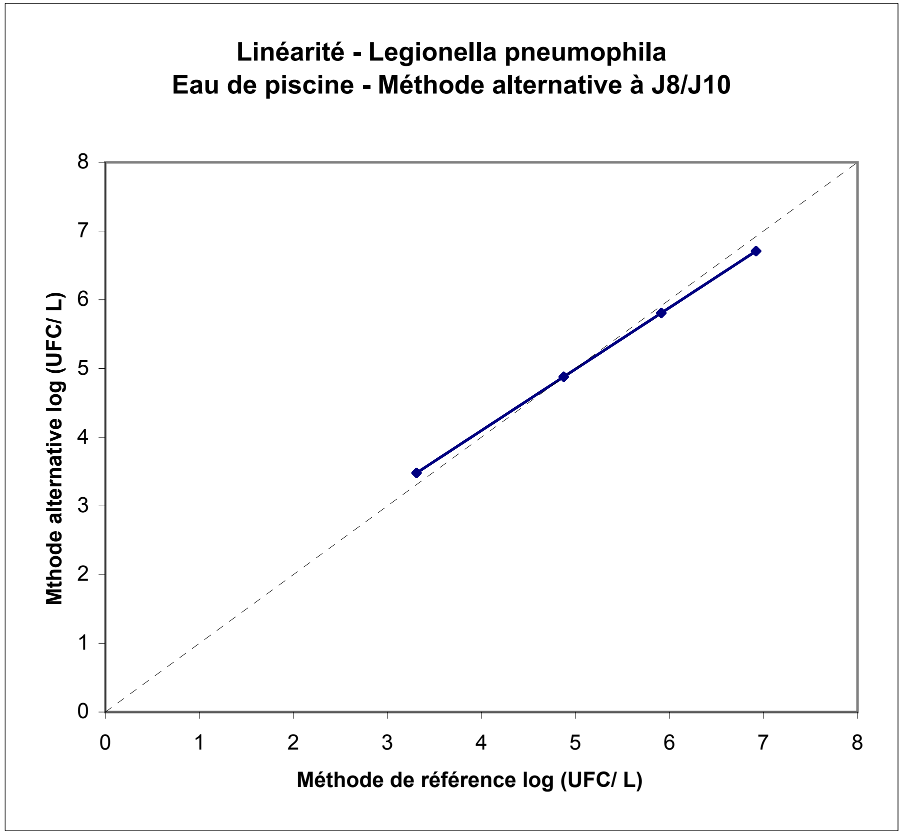
M(Réf.)	**Alt.**	**Est. y**	Déviation
3,310	3,431	3,480	-0,049
4,875	4,778	4,879	-0,101
5,913	5,875	5,807	0,068
6,921	6,079	6,709	-0,630
3,310	3,531	3,480	0,051
4,875	4,978	4,879	0,099
5,913	6,000	5,807	0,193
6,921	7,079	6,709	0,370

Res.SD = 0,316

Sb = 0,083
Sa = 0,453

p(t;b=1) = 0,251
p(t;a=0) = 0,293

t (b) = 1,269
t (a) = 1,151



Linéarité

F = 2,506
rob.F = 8,341

p(F) = 0,197
rob.p(F) = 0,037

Appendix 6 - LOD/LOQ

N°	Contamination en UFC/L (taux réel)	Nbr de colonies maximum retrouvée sur une des boitées du concentré	Confirmation	Résultat UFC/L
0A	0	0	/	0
0B		0	/	0
0C		0	/	0
0D		0	/	0
0E		0	/	0
0F		0	/	0
100A	67	1	+	50
100B		0	/	0
100C		0	/	0
100D		0	/	0
100E		0	/	0
100F		1	+	50
200A	132	0	/	0
200B		2	+	100
200C		2	+	100
200D		1	+	50
200E		0	/	0
200F		0	/	0
250A	180	0	/	0
250B		1	+	50
250C		1	+	50
250D		1	+	50
250E		1	+	50
250F		0	/	0
500A	300	2	+	100
500B		2	+	100
500C		3	+	150
500D		1	+	50
500E		2	+	100
500F		3	+	150

Appendix 7 - Selectivity

Inclusivity - Target strains

N°	Code	Microorganisme	Origine	Colonies caracté-ristiques	Confirmation			**Résultat**
					BCYE + cystéine	BCYE	Latex	
1	LEG.1.3	*Legionella pneumophila* sérogroupe 1	Souche clinique	oui	+	-	*Lp* sg1	*Legionella pneumophila* sérogroupe 1
2	LEG.1.4	*Legionella pneumophila* sérogroupe 2	Souche clinique	oui	+	-	*Lp* sg 2-15	*Legionella pneumophila* sérogroupe 2-15
3	LEG.1.5	*Legionella pneumophila* sérogroupe 3	Souche clinique	oui	+	-	*Lp* sg 2-15	*Legionella pneumophila* sérogroupe 2-15
4	LEG.1.6	*Legionella pneumophila* sérogroupe 4	Souche clinique	oui	+	-	*Lp* sg 2-15	*Legionella pneumophila* sérogroupe 2-15
5	LEG.1.7	*Legionella pneumophila* sérogroupe 5	Souche clinique	oui	+	-	*Lp* sg 2-15	*Legionella pneumophila* sérogroupe 2-15
6	LEG.1.9	*Legionella pneumophila* sérogroupe 7	Souche clinique	oui	+	-	*Lp* sg 2-15	*Legionella pneumophila* sérogroupe 2-15
7	LEG.1.10	*Legionella pneumophila* sérogroupe 8	Souche clinique	oui	+	-	*Lp* sg 2-15	*Legionella pneumophila* sérogroupe 2-15
8	LEG.1.11	*Legionella pneumophila* sérogroupe 9	Souche clinique	oui	+	-	*Lp* sg 2-15	*Legionella pneumophila* sérogroupe 2-15
9	LEG.1.12	*Legionella pneumophila* sérogroupe 10	Souche clinique	oui	+	-	*Lp* sg 2-15	*Legionella pneumophila* sérogroupe 2-15
10	LEG.1.14	*Legionella pneumophila* sérogroupe 12	Souche clinique	oui	+	-	*Lp* sg 2-15	*Legionella pneumophila* sérogroupe 2-15
11	LEG.1.15	*Legionella pneumophila* sérogroupe 13	Souche clinique	oui	+	-	*Lp* sg 2-15	*Legionella pneumophila* sérogroupe 2-15
12	LEG.1.16	*Legionella pneumophila* sérogroupe 14	Souche clinique	oui	+	-	*Lp* sg 2-15	*Legionella pneumophila* sérogroupe 2-15
13	LEG.1.17	*Legionella pneumophila* sérogroupe 15	Souche clinique	oui	+	-	*Lp* sg 2-15	*Legionella pneumophila* sérogroupe 2-15
14	LEG.3.1	*Legionella anisa*	CIP 103870	oui	+	-	*Lp anisa*	*Legionella anisa*
15	LEG.4.1	*Legionella birminghamsis*	Souche clinique	oui	+	-	-	*Legionella spp* (autre que *Lp* sg1 ou *Lp* sg2-15 ou *L.anisa*)
16	LEG.5.1	*Legionella bozemanii*	CIP 103872	oui	+	-	-	*Legionella spp* (autre que *Lp* sg1 ou *Lp* sg2-15 ou *L.anisa*)
17	LEG.6.1	*Legionella cherii*	Souche clinique	oui	+	-	-	*Legionella spp* (autre que *Lp* sg1 ou *Lp* sg2-15 ou *L.anisa*)
18	LEG.9.1	*Legionella erythra*	Souche clinique	oui	+	-	-	*Legionella spp* (autre que *Lp* sg1 ou *Lp* sg2-15 ou *L.anisa*)
19	LEG.10.1	*Legionella feeleii*	Souche clinique	oui	+	-	-	*Legionella spp* (autre que *Lp* sg1 ou *Lp* sg2-15 ou *L.anisa*)
20	LEG.13.1	*Legionella jordanis*	Souche clinique	oui	+	-	-	*Legionella spp* (autre que *Lp* sg1 ou *Lp* sg2-15 ou *L.anisa*)
21	LEG.14.1	*Legionella lansingensis*	CIP 103542	oui	+	-	-	*Legionella spp* (autre que *Lp* sg1 ou *Lp* sg2-15 ou *L.anisa*)
22	LEG.15.1	*Legionella longbeachae*	Souche clinique	oui	+	-	-	*Legionella spp* (autre que *Lp* sg1 ou *Lp* sg2-15 ou *L.anisa*)
23	LEG.16.1	*Legionella maceachernii*	Souche clinique	oui	+	-	-	*Legionella spp* (autre que *Lp* sg1 ou *Lp* sg2-15 ou *L.anisa*)
24	LEG.19.1	*Legionella parisiensis*	Souche clinique	oui	+	-	-	*Legionella spp* (autre que *Lp* sg1 ou *Lp* sg2-15 ou *L.anisa*)
25	LEG.20.1	*Legionella sainthelensis*	Souche clinique	oui	+	-	-	*Legionella spp* (autre que *Lp* sg1 ou *Lp* sg2-15 ou *L.anisa*)
26	LEG.21.1	*Legionella tucsonensis*	Souche clinique	oui	+	-	-	*Legionella spp* (autre que *Lp* sg1 ou *Lp* sg2-15 ou *L.anisa*)
27	LEG.18.1	*Legionella oakridgensis*	Souche clinique	oui	+	-	-	*Legionella spp* (autre que *Lp* sg1 ou *Lp* sg2-15 ou *L.anisa*)
28	LEG.12.1	*Legionella hackeliae*	CIP103844	oui	+	-	-	*Legionella spp* (autre que *Lp* sg1 ou *Lp* sg2-15 ou *L.anisa*)
29	LEG.17.1	*Legionella micdadei*	Souche clinique	oui	+	-	-	*Legionella spp* (autre que *Lp* sg1 ou *Lp* sg2-15 ou *L.anisa*)
30	LEG.23.1	*Legionella dumofii*	Souche clinique	oui	+	-	-	*Legionella spp* (autre que *Lp* sg1 ou *Lp* sg2-15 ou *L.anisa*)

Exclusivity - Non target strains

N°	Code	Microorganisme	Origine	Colonies caracté-ristiques	Confirmation			**Résultat**
					BCYE + cystéine	BCYE	Latex	
1	ESC.1.111	*Escherichia coli*	Eau de fontaine	non	/	/	/	-
2	ENTC.1.3	*Enterococcus faecalis*	CIP 103214	non	/	/	/	-
3	ENTC.3.1	*Enterococcus hirae*	CIP 58.55	non	/	/	/	-
4	PRO.1.1	*Proteus mirabilis*	CIP 103181	oui	+	+	/	-
5	PSE1.4	*Pseudomonas aeruginosa*	Eau de fontaine	non	/	/	/	-
6	RAH.1.2	*Rahnella aquatilis*	Eau de rivière (Seine)	oui	+	+	/	-
7	PSE.2.1	*Pseudomonas fluorescens*	CIP 69.13T	non	/	/	/	-
8	ENTB.1.3	*Enterobacter aerogenes*	Eau de rivière (Tamise)	non	/	/	/	-
9	STA.1.5	*Staphylococcus aureus*	Eaux superficielles	non	/	/	/	-
10	STE.1.1	*Stenotrophomonas maltophila*	Eau de fontaine	oui	+	+	/	-
11	AER.1.1	*Aeromonas hydrophyla*	Eau de puits	non	/	/	/	-
12	AER.1.5	*Aeromonas hydrophyla*	Eau de rivière (Saint-Oger)	oui	+	+	/	-
13	KLE.2.2	*Klebsiella pneumoniae*	CIP 82.91	non	/	/	/	-
14	PROV.1.1	*Providencia stuartii*	HPA RM	oui	+	+	/	-
15	BAC.4.2	*Bacillus subtilis*	CIP 52.65T	non	/	/	/	-
16	MOR.1.1	*Morganella morganii*	Eau de rivière (Bièvre)	oui	+	+	/	-
17	STA.2.2	*Staphylococcus epidermidis 2*	boîte de contact in	non	/	/	/	-
18	PSE.1.6	*Pseudomonas aeruginosa*	Eau de fontaine	non	/	/	/	-
19	PSE.3.1	*Pseudomonas putida*	Eau	oui	+	+	/	-
20	AER.4.1	*Aeromonas veroni*	Eau de rivière (Seine)	oui	+	+	/	-
21	ENTC.1.2	*Enterococcus faecalis*	ATCC 33186	non	/	/	/	-
22	KLU.3.1	*Kluyvera ascorbata*	Eau de rivière (Marne)	non	/	/	/	-
23	AER.1.4	*Aeromonas hydrophila*	Eau (Japon)	oui	+	+	/	-
24	ENTC.4.1	*Enterococcus avium*	Eau (Allemagne)	non	/	/	/	-
25	ENTC.1.4	*Enterococcus faecalis*	Eau de rivière (Tamise)	non	/	/	/	-
26	ENTC.2.2	*Enterococcus faecium*	Environnement aquatique	non	/	/	/	-
27	ENTC.5.1	*Enterococcus gallinarum*	Eau	non	/	/	/	-
28	PRO.1.2	*Proteus mirabilis*	Eau	oui	+	+	/	-
29	STA.1.6	*Staphylococcus aureus*	Eau	non	/	/	/	-
30	PSE.1.7	*Pseudomonas aeruginosa*	Eau d'effluent	non	/	/	/	-

Appendix 8 - Culturable microorganisms enumeration

Laboratory	Result (CFU/mL) at 22°C	Result (CFU/mL) at 36°C
A	<1	<1
B	42	<1
C	18	9
D	6	4
E	1	1
F	1	3
G	9	5
H	2	2
I	8	10
J	5	1
K	1	5
L	10	12
M	42	<1
ISHA	10	13

Appendix 9 - Interlaboratory study results

Level 0

Laboratoire	Analyse	Méthode de référence - Echantillons				Méthode alternative - Echantillons			
		1		3		1		3	
		Résultats confirmés		**Résultats confirmés**		**Résultats confirmés**		**Résultats confirmés**	
		UFC/L	***Log 10 (UFC/L)***	**UFC/L**	***Log 10 (UFC/L)***	**UFC/L**	***Log 10 (UFC/L)***	**UFC/L**	***Log 10 (UFC/L)***
A	J5	<250	/	<250	/	<250	/	<250	/
	J10	<250	/	<250	/	<250	/	<250	/
B	J5	<250	/	<250	/	<250	/	<250	/
	J10	<250	/	<250	/	<250	/	<250	/
C	J5	<250	/	<250	/	<250	/	<250	/
	J10	<250	/	<250	/	<250	/	<250	/
D	J5	<250	/	<250	/	<250	/	<250	/
	J10	<250	/	<250	/	<250	/	<250	/
E	J5	<250	/	<250	/	<250	/	<250	/
	J10	<250	/	<250	/	<250	/	<250	/
F	J5	<250	/	<250	/	<250	/	<250	/
	J10	<250	/	<250	/	<250	/	<250	/
G	J5	<250: PNQ	/	<250	/	<250: PNQ	/	<250	/
	J10	<250: PNQ	/	<250	/	<250: PNQ	/	<250	/
H	J5	<250	/	<250	/	<250	/	<250	/
	J10	<250	/	<250	/	<250	/	<250	/
I	J5	<250	/	<250	/	<250	/	<250	/
	J10	<250	/	<250	/	<250	/	<250	/
J	J5	<250	/	<250	/	<250	/	<250: PNQ	/
	J10	<250	/	<250	/	<250	/	<250: PNQ	/
K	J5	8,7E+03	*3,94*	1,0E+03	*3,000*	9,5E+03	*3,978*	8,5E+02	*2,929*
	J10	8,7E+03	*3,94*	1,2E+03	*3,079*	5,2E+03	*3,716*	1,5E+03	*3,176*
L	J5	<250	/	<250	/	<250	/	<250	/
	J10	<250	/	<250	/	<250	/	<250	/
M	J5	<250	/	<250	/	<250	/	<250	/
	J10	<250	/	<250	/	<250	/	<250	/
Expert	J5	<250	/	<250	/	<250	/	<250	/
	J10	<250	/	<250	/	<250	/	<250	/

PNQ: présence de *Legionella* non quantifiable

Level 1

Laboratoire	Analyse	Méthode de référence - Echantillons				Méthode alternative - Echantillons			
		5		8		5		8	
		Résultats confirmés		**Résultats confirmés**		**Résultats confirmés**		**Résultats confirmés**	
		UFC/L	***Log 10 (UFC/L)***	**UFC/L**	***Log 10 (UFC/L)***	**UFC/L**	***Log 10 (UFC/L)***	**UFC/L**	***Log 10 (UFC/L)***
A	J5	6,8E+03	*3,83*	1,3E+04	*4,11*	6,1E+03	*3,79*	1,3E+04	*4,11*
	J10	6,8E+03	*3,83*	1,3E+04	*4,11*	6,1E+03	*3,79*	1,3E+04	*4,11*
B	J5	5,9E+03	*3,77*	5,2E+03	*3,72*	6,3E+03	*3,80*	4,4E+03	*3,64*
	J10	5,9E+03	*3,77*	5,2E+03	*3,72*	6,3E+03	*3,80*	4,4E+03	*3,64*
C	J5	6,0E+03	*3,78*	2,5E+04	*4,40*	2,5E+04	*4,40*	6,3E+03	*3,80*
	J10	6,0E+03	*3,78*	2,5E+04	*4,40*	2,5E+04	*4,40*	6,3E+03	*3,80*
D	J5	4,5E+03	*3,65*	4,5E+04	*4,65*	3,0E+04	*4,48*	5,5E+03	*3,74*
	J10	4,5E+03	*3,65*	4,5E+04	*4,65*	3,0E+04	*4,48*	5,5E+03	*3,74*
E	J5	2,5E+04	*4,40*	4,0E+03	*3,60*	3,4E+03	*3,53*	3,9E+03	*3,59*
	J10	2,5E+04	*4,40*	4,1E+03	*3,61*	3,4E+03	*3,53*	3,9E+03	*3,59*
F	J5	6,5E+03	*3,81*	2,5E+04	*4,40*	7,6E+03	*3,88*	4,5E+04	*4,65*
	J10	6,5E+03	*3,81*	2,5E+04	*4,40*	3,5E+04	*4,54*	4,5E+04	*4,65*
G	J5	7,3E+03	*3,86*	3,0E+04	*4,48*	4,0E+04	*4,60*	4,5E+04	*4,65*
	J10	7,3E+03	*3,86*	3,0E+04	*4,48*	4,0E+04	*4,60*	4,5E+04	*4,65*
H	J5	3,0E+03	*3,48*	1,7E+03	*3,23*	3,0E+04	*4,48*	1,7E+03	*3,23*
	J10	3,0E+03	*3,48*	1,7E+03	*3,23*	3,0E+04	*4,48*	1,7E+03	*3,23*
I	J5	7,2E+03	*3,86*	4,5E+03	*3,65*	9,0E+03	*3,95*	8,3E+03	*3,92*
	J10	7,2E+03	*3,86*	4,5E+03	*3,65*	9,0E+03	*3,95*	8,3E+03	*3,92*
J	J5	7,5E+03	*3,88*	2,5E+03	*3,40*	7,0E+03	*3,85*	3,0E+04	*4,48*
	J10	7,5E+03	*3,88*	2,5E+03	*3,40*	7,0E+03	*3,85*	3,0E+04	*4,48*
K	J5	5,0E+03	*3,70*	4,5E+03	*3,66*	4,5E+03	*3,65*	3,5E+04	*4,54*
	J10	5,0E+03	*3,70*	5,9E+03	*3,77*	4,9E+03	*3,69*	4,0E+04	*4,60*
L	J5	3,1E+03	*3,49*	6,0E+03	*3,77*	4,2E+03	*3,62*	5,5E+03	*3,74*
	J10	3,1E+03	*3,49*	6,0E+03	*3,77*	4,2E+03	*3,62*	5,5E+03	*3,74*
M	J5	2,5E+03	*3,40*	3,0E+03	*3,48*	4,0E+04	*4,60*	2,5E+03	*3,40*
	J10	2,5E+03	*3,40*	3,0E+03	*3,48*	4,0E+04	*4,60*	2,5E+03	*3,40*
Expert	J5	6,3E+03	*3,80*	5,6E+03	*3,75*	5,2E+03	*3,72*	5,9E+03	*3,77*
	J10	6,3E+03	*3,80*	5,6E+03	*3,75*	5,2E+03	*3,72*	5,9E+03	*3,77*

Level 2

Laboratoire	Analyse	Méthode de référence - Echantillons				Méthode alternative - Echantillons			
		4		6		4		6	
		Résultats confirmés		**Résultats confirmés**		**Résultats confirmés**		**Résultats confirmés**	
		UFC/L	***Log 10 (UFC/L)***	**UFC/L**	***Log 10 (UFC/L)***	**UFC/L**	***Log 10 (UFC/L)***	**UFC/L**	***Log 10 (UFC/L)***
A	J5	3,5E+05	*5,54*	3,1E+05	*5,49*	3,6E+05	*5,56*	3,0E+05	*5,48*
	J10	3,5E+05	*5,54*	3,1E+05	*5,49*	3,6E+05	*5,56*	3,0E+05	*5,48*
B	J5	3,7E+05	*5,57*	2,8E+05	*5,45*	3,7E+05	*5,57*	2,2E+05	*5,34*
	J10	3,7E+05	*5,57*	2,8E+05	*5,45*	3,7E+05	*5,57*	2,2E+05	*5,34*
C	J5	4,9E+05	*5,69*	4,8E+05	*5,68*	5,1E+05	*5,71*	5,6E+05	*5,75*
	J10	4,9E+05	*5,69*	4,8E+05	*5,68*	5,1E+05	*5,71*	5,6E+05	*5,75*
D	J5	4,8E+05	*5,68*	3,8E+05	*5,58*	3,3E+05	*5,52*	3,9E+05	*5,59*
	J10	4,8E+05	*5,68*	3,8E+05	*5,58*	3,3E+05	*5,52*	3,9E+05	*5,59*
E	J5	3,0E+05	*5,48*	3,6E+05	*5,56*	3,0E+05	*5,48*	4,8E+05	*5,68*
	J10	3,0E+05	*5,48*	3,6E+05	*5,56*	3,0E+05	*5,48*	4,8E+05	*5,68*
F	J5	3,6E+05	*5,56*	4,1E+05	*5,62*	2,9E+05	*5,46*	3,1E+05	*5,50*
	J10	3,7E+05	*5,57*	4,1E+05	*5,62*	3,0E+05	*5,47*	3,3E+05	*5,52*
G	J5	3,6E+05	*5,56*	3,1E+05	*5,49*	2,6E+05	*5,41*	3,0E+05	*5,48*
	J10	3,6E+05	*5,56*	3,1E+05	*5,49*	2,6E+05	*5,41*	3,0E+05	*5,48*
H	J5	3,1E+05	*5,49*	3,8E+05	*5,57*	4,2E+05	*5,62*	3,2E+05	*5,50*
	J10	3,1E+05	*5,49*	4,1E+05	*5,62*	4,2E+05	*5,62*	3,2E+05	*5,50*
I	J5	3,8E+05	*5,57*	3,6E+05	*5,55*	3,6E+05	*5,55*	3,3E+05	*5,51*
	J10	3,8E+05	*5,57*	3,6E+05	*5,55*	3,6E+05	*5,55*	3,3E+05	*5,51*
J	J5	3,1E+05	*5,49*	3,1E+05	*5,49*	2,6E+05	*5,41*	2,0E+05	*5,30*
	J10	3,1E+05	*5,49*	3,1E+05	*5,49*	2,6E+05	*5,41*	2,1E+05	*5,32*
K	J5	2,8E+05	*5,45*	2,6E+05	*5,41*	3,0E+05	*5,48*	2,5E+05	*5,40*
	J10	3,0E+05	*5,48*	2,6E+05	*5,41*	3,1E+05	*5,49*	2,6E+05	*5,41*
L	J5	3,4E+05	*5,53*	3,5E+05	*5,54*	3,3E+05	*5,51*	3,4E+05	*5,53*
	J10	3,4E+05	*5,53*	3,5E+05	*5,54*	3,3E+05	*5,51*	3,4E+05	*5,53*
M	J5	5,7E+05	*5,75*	5,3E+05	*5,72*	4,8E+05	*5,68*	4,2E+05	*5,63*
	J10	5,7E+05	*5,75*	5,3E+05	*5,72*	4,8E+05	*5,68*	4,2E+05	*5,63*
Expert	J5	3,4E+05	*5,53*	4,0E+05	*5,60*	4,1E+05	*5,61*	4,0E+05	*5,61*
	J10	3,4E+05	*5,53*	4,0E+05	*5,60*	4,1E+05	*5,61*	4,0E+05	*5,61*

Level 3

Laboratoire	Analyse	Méthode de référence - Echantillons				Méthode alternative - Echantillons			
		2		7		2		7	
		Résultats confirmés		**Résultats confirmés**		**Résultats confirmés**		**Résultats confirmés**	
		UFC/L	***Log 10 (UFC/L)***	**UFC/L**	***Log 10 (UFC/L)***	**UFC/L**	***Log 10 (UFC/L)***	**UFC/L**	***Log 10 (UFC/L)***
A	J5	2,9E+06	*6,46*	3,6E+06	*6,56*	2,7E+06	*6,43*	3,0E+06	*6,48*
	J10	2,9E+06	*6,46*	3,6E+06	*6,56*	2,7E+06	*6,43*	3,0E+06	*6,48*
B	J5	5,0E+06	*6,70*	3,7E+06	*6,57*	4,8E+06	*6,68*	4,8E+06	*6,68*
	J10	5,0E+06	*6,70*	3,7E+06	*6,57*	4,8E+06	*6,68*	4,8E+06	*6,68*
C	J5	5,7E+06	*6,76*	7,1E+06	*6,85*	6,1E+06	*6,79*	7,8E+06	*6,89*
	J10	5,7E+06	*6,76*	7,1E+06	*6,85*	6,1E+06	*6,79*	7,8E+06	*6,89*
D	J5	6,8E+06	*6,83*	7,3E+06	*6,86*	6,0E+06	*6,78*	7,1E+06	*6,85*
	J10	6,8E+06	*6,83*	7,3E+06	*6,86*	6,0E+06	*6,78*	7,1E+06	*6,85*
E	J5	5,0E+06	*6,69*	7,0E+06	*6,85*	6,4E+06	*6,80*	5,4E+06	*6,73*
	J10	5,2E+06	*6,72*	7,0E+06	*6,85*	6,4E+06	*6,80*	5,5E+06	*6,74*
F	J5	4,9E+06	*6,69*	5,8E+06	*6,76*	4,2E+06	*6,62*	5,5E+06	*6,74*
	J10	4,9E+06	*6,69*	5,8E+06	*6,76*	4,2E+06	*6,62*	5,5E+06	*6,74*
G	J5	4,3E+06	*6,63*	4,4E+06	*6,64*	4,0E+06	*6,60*	4,5E+06	*6,65*
	J10	4,3E+06	*6,63*	4,4E+06	*6,64*	4,0E+06	*6,60*	4,5E+06	*6,65*
H	J5	4,3E+06	*6,63*	3,5E+06	*6,54*	4,6E+06	*6,66*	4,5E+06	*6,65*
	J10	4,3E+06	*6,63*	3,5E+06	*6,54*	4,6E+06	*6,66*	4,5E+06	*6,65*
I	J5	>1500000	/	>1500000	/	>1500000	/	>1500000	/
	J10	>1500000	/	>1500000	/	>1500000	/	>1500000	/
J	J5	4,2E+06	*6,62*	4,6E+06	*6,66*	3,7E+06	*6,57*	4,0E+06	*6,60*
	J10	4,2E+06	*6,62*	4,6E+06	*6,66*	3,7E+06	*6,57*	4,0E+06	*6,60*
K	J5	4,0E+06	*6,60*	3,6E+06	*6,56*	5,7E+06	*6,75*	3,9E+06	*6,59*
	J10	5,3E+06	*6,72*	4,0E+06	*6,60*	5,7E+06	*6,76*	4,3E+06	*6,63*
L	J5	4,2E+06	*6,62*	5,0E+06	*6,70*	4,8E+06	*6,68*	3,5E+06	*6,54*
	J10	4,2E+06	*6,62*	5,0E+06	*6,70*	4,8E+06	*6,68*	3,5E+06	*6,54*
M	J5	4,4E+06	*6,64*	5,5E+06	*6,74*	4,2E+06	*6,62*	5,5E+06	*6,74*
	J10	4,4E+06	*6,64*	5,5E+06	*6,74*	4,2E+06	*6,62*	5,5E+06	*6,74*
Expert	J5	7,3E+06	*6,86*	6,7E+06	*6,83*	6,6E+06	*6,82*	6,8E+06	*6,83*
	J10	7,3E+06	*6,86*	6,7E+06	*6,83*	6,6E+06	*6,82*	6,8E+06	*6,83*

Results recalculated for the low level of contamination at D5 and D10

Only bold and underlined results were taken into account for the calculations of the concentrations

Results recalculated at D5

Laboratoire	Répé-tition	Milieux	Nombres des colonies dénombrées sur la boîte ensemencée :				Concentration		
			Direct	Concentré	Concentré 1/10	Traitement acide ou thermique		UFC/L	Log (UFC/L)
C	R1	GVPC	1	**120**	4	41	Bruts	$6,0.10^{3}$	3,78
			1	120	4	41	Corrigés	/	/
		MWY	**5**	125	11	41	Bruts	$2,5.10^{4}$	4,40
			5	**125**	**11**	41	Corrigés	$6,1.10^{3}$	3,79
	R2	GVPC	**5**	113	9	71	Bruts	$2,5.10^{4}$	4,40
			5	**113**	9	71	Corrigés	$5,5.10^{3}$	3,74
		MWY	<1	**126**	13	71	Bruts	$6,3.10^{3}$	3,80
			<1	126	13	71	Corrigés	/	/
D	R1	GVPC	4	<1	**9**	76	Bruts	$4,5.10^{3}$	3,65
			4	<1	9	76	Corrigés	/	/
		MWY	**6**	<1	11	95	Bruts	$3,0.10^{4}$	4,47
			6	<1	**11**	95	Corrigés	$5,5.10^{3}$	3,74
	R2	GVPC	**9**	80	12	80	Bruts	$4,5.10^{4}$	3,65
			9	**80**	**12**	80	Corrigés	$4,1.10^{3}$	3,61
		MWY	1	<1	**11**	67	Bruts	$5,5.10^{3}$	3,74
			1	<1	11	67	Corrigés	/	/
E	R1	GVPC	**5**	<1	3	71	Bruts	$2,5.10^{4}$	4,40
			5	<1	3	**71**	Corrigés	$3,6.10^{3}$	3,55
		MWY	3	1	<1	**68**	Bruts	$3,4.10^{3}$	3,55
			3	1	<1	68	Corrigés	/	/
	R2	GVPC	3	>150	6	**79**	Bruts	$4,0.10^{3}$	3,60
			3	>150	6	79	Corrigés	/	/
		MWY	3	>150	3	**78**	Bruts	$3,9.10^{3}$	3,59
			3	>150	3	78	Corrigés	/	/
F	R1	GVPC	<1	>300	6	**130**	Bruts	$6,5.10^{3}$	3,81
			<1	>300	6	130	Corrigés	/	/
		MWY	4	>300	>300	**152**	Bruts	$7,6.10^{3}$	3,88
			4	>300	>300	152	Corrigés	/	/
	R2	GVPC	**5**	>300	2	46	Bruts	$2,5.10^{4}$	4,40
			5	>300	2	46	Corrigés	/	/
		MWY	**9**	>300	>300	67	Bruts	$4,5.10^{4}$	4,65
			9	>300	>300	67	Corrigés	/	/
H	R1	GVPC	3	**60**	4	46	Bruts	$3,0.10^{3}$	3,48
			3	60	4	46	Corrigés	/	/
		MWY	**6**	59	6	58	Bruts	$3,0.10^{4}$	4,48
			6	**59**	**6**	58	Corrigés	$2,9.10^{3}$	3,46
	R2	GVPC	4	**31**	**7**	27	Bruts	$1,7.10^{3}$	3,23
			4	31	7	27	Corrigés	/	/
		MWY	4	**34**	2	35	Bruts	$1,7.10^{3}$	3,23
			4	34	2	35	Corrigés	/	/
J	R1	GVPC	4	>150	**15**	<1	Bruts	$7,5.10^{3}$	3,88
			4	>150	15	<1	Corrigés	/	/
		MWY	3	>150	**14**	1	Bruts	$7,0.10^{3}$	3,85
			3	>150	14	1	Corrigés	/	/
	R2	GVPC	2	>150	**5**	48	Bruts	$2,5.10^{3}$	3,40
			2	>150	5	48	Corrigés	/	/
		MWY	**6**	>150	4	45	Bruts	$3,0.10^{4}$	4,48
			6	>150	4	**45**	Corrigés	$2,3.10^{3}$	3,35

Results recalculated at D10

Laboratoire	Répé-tition	Milieux	Nombres des colonies dénombrées sur la boîte ensemencée :				Concentration		
			Direct	Concentré	Concentré 1/10	Traitement acide ou thermique		UFC/L	Log (UFC/L)
C	R1	GVPC	1	**120**	4	41	Bruts	$6,0.10^{3}$	3,78
			1	120	4	41	Corrigés	/	/
		MWY	**5**	125	11	41	Bruts	$2,5.10^{4}$	4,40
			5	**125**	**11**	41	Corrigés	$6,1.10^{3}$	3,79
	R2	GVPC	**5**	113	9	71	Bruts	$2,5.10^{4}$	4,40
			5	**113**	9	71	Corrigés	$5,5.10^{3}$	3,74
		MWY	<1	**126**	13	71	Bruts	$6,3.10^{3}$	3,80
			<1	126	13	71	Corrigés	/	/
D	R1	GVPC	4	<1	**9**	76	Bruts	$4,5.10^{3}$	3,65
			4	<1	9	76	Corrigés	/	/
		MWY	**6**	<1	11	95	Bruts	$3,0.10^{4}$	4,47
			6	<1	**11**	95	Corrigés	$5,5.10^{3}$	3,74
	R2	GVPC	**9**	80	12	80	Bruts	$4,5.10^{4}$	3,65
			9	**80**	**12**	80	Corrigés	$4,1.10^{3}$	3,61
		MWY	1	<1	**11**	67	Bruts	$5,5.10^{3}$	3,74
			1	<1	11	67	Corrigés	/	/
E	R1	GVPC	**5**	<1	3	71	Bruts	$2,5.10^{4}$	4,40
			5	<1	3	**71**	Corrigés	$3,6.10^{3}$	3,55
		MWY	3	1	<1	**68**	Bruts	$3,4.10^{3}$	3,55
			3	1	<1	68	Corrigés	/	/
	R2	GVPC	3	>150	6	**82**	Bruts	$4,1.10^{3}$	3,61
			3	>150	6	82	Corrigés	/	/
		MWY	3	>150	3	**78**	Bruts	$3,9.10^{3}$	3,59
			3	>150	3	78	Corrigés	/	/
F	R1	GVPC	<1	>300	6	**130**	Bruts	$6,5.10^{3}$	3,81
			<1	>300	6	130	Corrigés	/	/
		MWY	**7**	>300	>300	152	Bruts	$3,5.10^{4}$	4,54
			7	>300	>300	**152**	Corrigés	$7,6.10^{3}$	3,88
	R2	GVPC	**5**	>300	2	46	Bruts	$2,5.10^{4}$	4,40
			5	>300	2	46	Corrigés	/	/
		MWY	**9**	>300	>300	67	Bruts	$4,5.10^{4}$	4,65
			9	>300	>300	67	Corrigés	/	/
H	R1	GVPC	4	**60**	4	46	Bruts	$3,0.10^{3}$	3,48
			4	60	4	46	Corrigés	/	/
		MWY	**6**	59	6	58	Bruts	$3,0.10^{4}$	4,48
			6	**59**	**6**	58	Corrigés	$2,9.10^{3}$	3,46
	R2	GVPC	4	**31**	**7**	27	Bruts	$1,7.10^{3}$	3,23
			4	31	7	27	Corrigés	/	/
		MWY	4	**34**	2	35	Bruts	$1,7.10^{3}$	3,23
			4	34	2	35	Corrigés	/	/
J	R1	GVPC	4	>150	**15**	<1	Bruts	$7,5.10^{3}$	3,88
			4	>150	15	<1	Corrigés	/	/
		MWY	3	>150	**14**	1	Bruts	$7,0.10^{3}$	3,85
			3	>150	14	1	Corrigés	/	/
	R2	GVPC	2	>150	**5**	48	Bruts	$2,5.10^{3}$	3,40
			2	>150	5	48	Corrigés	/	/
		MWY	**6**	>150	4	45	Bruts	$3,0.10^{4}$	4,48
			6	>150	4	**45**	Corrigés	$2,3.10^{3}$	3,35