

NF VALIDATION
Validation of alternative analysis methods
Application to the water analysis

Summary report
according to the Validation protocol for an alternative commercial
method as compared with a reference method – revision 2

Quantitative method

EasyDisc YEA
for the enumeration of culturable microorganisms in water

Expert laboratory:

Laboratoire MICROSEPT
ZA de la Sablonnière
15 rue Denis Papin
49220 LE LION D'ANGERS
FRANCE

For:

IDEXX Laboratories, Inc.
IDEXX Drive, Westbrook
Maine 04 092
USA

This report contains 61 pages and 37 pages of appendices.

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LABORATOIRE MICROSEPT

ZA de la Sablonnière - 15 rue Denis Papin - 49220 LE LION D'ANGERS

Tél. : 02 41 41 70 70 - Fax : 02 41 41 70 71 - laboratoire@microsept.fr - www.microsept.fr

SAS AU CAPITAL DE 40 000 € - N° SIRET 394 895 304 00035 - RCS ANGERS - APE 7120 B - N° INTRACOMMUNAUTAIRE FR92 394 895 304

Preamble

- Protocols of validation:

- Validation protocol for an alternative commercial method as compared with a reference method – revision 2

- Reference method:

- NF EN ISO 6222 (July 1999): Water quality – Enumeration of culturable micro-organisms – Colony count by inoculation in a nutrient agar culture medium

- Application scope:

- Water for human consumption (drinking waters)

- Certification body:

- AFNOR Certification (<https://nf-validation.afnor.org/>).

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Appendices:

Appendix A: Protocol of the alternative method

Appendix B: Protocol of the reference method

Appendix C: Linearity – raw results

Appendix D: Relative accuracy – raw results

Appendix E: LOD-LOQ – raw results

Appendix F: Interlaboratory study – raw results

1. Introduction

This document introduces the results of the validation study for the NF Validation certification of the EasyDisc YEA method according to the revision 2 of the Validation protocol for an alternative commercial method as compared with a reference method.

The EasyDisc YEA method is developed by IDEXX for the enumeration of culturable microorganisms in drinking waters and validated initially in 2022.

This validation study consisted of:

- A method comparison study where the following parameters were studied:
 - the relative accuracy,
 - the linearity,
 - the quantification limits,
 - the selectivity
 - the practicability
- An interlaboratory study.

2. Protocols of the methods

2.1. Alternative method

2.1.1. Principle of the method

The EasyDisc YEA method is used for the quantification of culturable, waterborne bacteria. Culturable is defined as any aerobic bacteria able to form colonies on solid media. It is based upon colorimetric technology which detects viable aerobic bacteria by testing for growth and for the presence of key enzymes known to be present in these organisms. It uses a substrate that produces a blue color reaction when metabolized by most waterborne bacteria. The sample is added directly to the EasyDisc YEA plate, incubated, and then examined for colored colonies.

The colony values generated by EasyDisc YEA method correlate with the Pour Plate method using Yeast Extract Agar incubated at 22°C for 68 hours and 36°C for 44 hours as described in ISO 6222: Water quality - Enumeration of culturable micro-organisms - Colony count by inoculation in a nutrient agar culture medium.

2.1.2. Protocol of the method

The protocol of the method is the following:

- Remove white lid and add 1.0±0.1 mL water sample directly to the clear EasyDisc YEA plate,
- Gently swirl immediately after sample addition to coat the plate entirely and reattach white lid,
- Incubate undisturbed at room temperature for at least 20 minutes to allow for the media to set. Transfer plate to incubator within 1 hour of sample addition,
- Incubate the plate, white lid side up, in a 22±2°C incubator for 68±4 hours or in a 36±2°C incubator for 44±4 hours. Inoculate at least one plate for incubation at each temperature,
- Examine the plates for colony growth as soon as they are removed from the incubators. Reject any plate with confluent growth,
- Enumerate all colonies for the result. The result is expressed as colony forming units (CFU) per milliliter.

Note: Most microorganisms will produce a blue color on EasyDisc, but some may produce natural pigments with colors other than blue. All colonies should be enumerated for the final result.

The workflow of the method is set out in Appendix A.

2.2. Reference method

The NF EN ISO 6222:1999 standard, Water quality — Enumeration of culturable micro-organisms — Colony count by inoculation in a nutrient agar culture medium will be used as the reference method. The workflow of the reference method is presented in Appendix B.

2.3. Application scope

The alternative method applies to drinking waters (Water for human consumption).

3. Method comparison study results

3.1. Linearity study

The linearity is the ability of the method when used with a given matrix to give results that are in proportion to the amount of analyte present in the sample, that is an increase in analyte corresponds to a linear or proportional increase in results.

3.1.1. Contamination levels

One pair “water-strain” was tested at 6 different contamination levels in duplicate by the reference and the alternative method in order to obtain at least 3 effective values for the two incubation temperatures of the methods.

The Expert laboratory chose wild strains isolated from naturally contaminated waters to inoculate the waters needed for this study.

The two “water-strain” pairs are described in Table 1.

Table 1: combinations « water-strain » and contamination levels

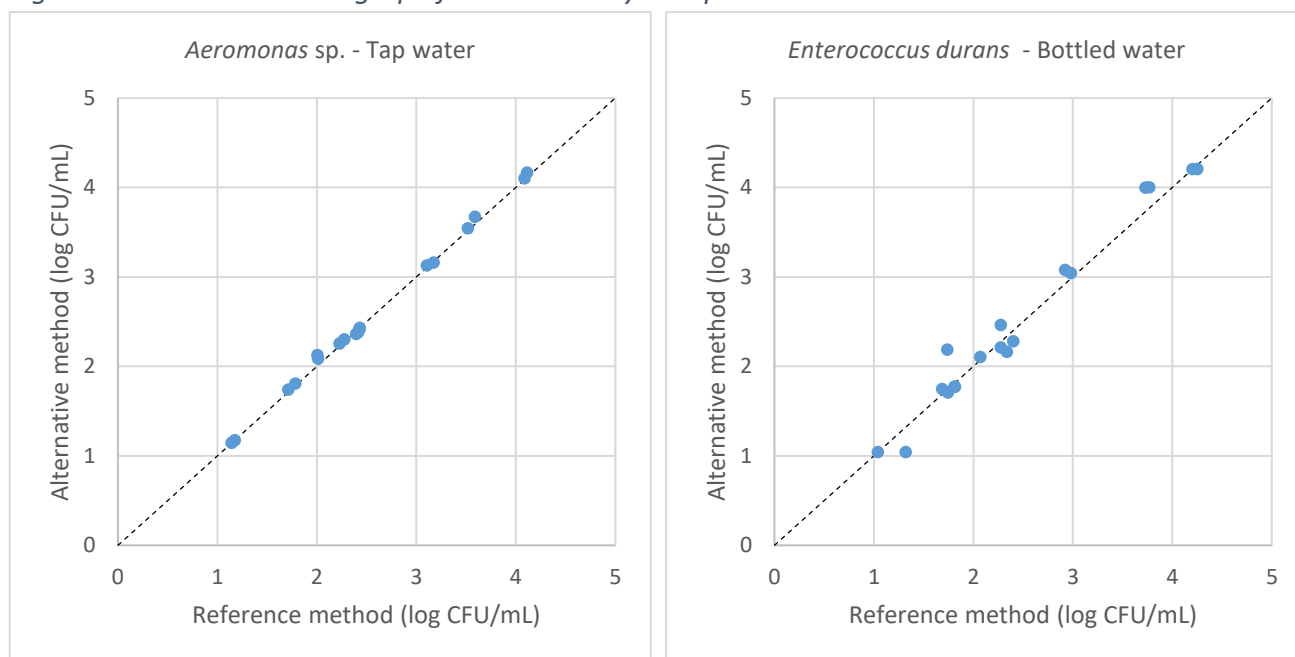
Incubation temperature	Type of water	Strain	Contamination levels (CFU/mL)
22°C	Tap water	<i>Aeromonas</i> sp. ABB472	10 – 50 – 100 – 150 – 200 – 250 – 1000 – 5000 – 10 000
36°C	Bottled water	<i>Enterococcus durans</i> YHW642	

3.1.2. Raw results

Raw results and statistical calculations are summarized in Appendix C. Graphs of figure 1 shows the values of each sample obtained by the alternative method and the reference method. The y-axis is reserved for the alternative method and the x-axis for the reference method.

The representation of a line of equation 'y = x' figures dashed on the graphs.

Figure 1: two-dimensional graph for the linearity in tap water at 22°C and in bottled water at 36°C



3.1.3. Statistical tests

Statistical interpretations are carried out in accordance with the requirements of the validation protocol (see Table 2).

The linear regression method is chosen over the value of the robustness of the ratio R of overall repeatability standard deviation:

- If $\text{Rob.R} > 2$, linear regression by least-squares (OLS 1) is used with the x-axis for the reference method,
- if $\text{Rob.R} < 0.5$, a linear regression by least-squares (OLS 2) is used with the x-axis for the alternative method,
- If $0.5 < \text{Rob.R} < 2$, orthogonal regression (GMFR) is used with the x-axis to the reference method.

Table 2: statistical data of the matrix – strain pair analyzed

Water	Rob. R	Regression used	F critical	Rob. F	P (Rob.F)	Correlation coefficient (r)	Regression line
Tap water	1.360	GMFR	3.29	3.857	0.032	0.997	$1.049 \log \text{Ref} - 0.104$
Bottled water	0.652	GMFR	3.29	27.417	0.000	0.992	$1.056 \log \text{Ref} - 0.106$

The relationship between the 2 methods is not linear:

- if $\text{Rob.F} > \text{critical F}$ or,
- if $P(\text{Rob.F}) < \alpha (= 0,05)$.

3.1.4. Conclusion

For the two waters, the relationship between the two methods is statistically not linear. However, the correlation coefficients of the regression lines are satisfactory, and visually, the points of the two-dimensional graphs are very well distributed along the first bisector.

The linearity of the alternative method is satisfactory.

3.2. Relative accuracy study

The relative accuracy is the degree of correspondence between the response obtained by the reference method and the response obtained by the alternative method on the same samples.

3.2.1. Number and nature of the waters tested

One category of waters was tested in duplicate with the alternative method and the reference method, including three types of waters.

Samples analyzed are presented in Table 3 and in Table 4.

Table 3: number and nature of the waters for an incubation temperature of 22°C

Water types	Incubation time: 64 hours		Incubation time: 72 hours	
	Samples analyzed	Samples exploited	Samples analyzed	Samples exploited
Water from wells, springs and boreholes	10	10	10	10
Bottled water: spring, mineral and other water	17	11	17	11
Mains and drinking fountain water	9	7	9	8
Total	36	28	36	29

Table 4: number and nature of the waters for an incubation temperature of 36°C

Water types	Incubation time: 40 hours		Incubation time: 48 hours	
	Samples analyzed	Samples exploited	Samples analyzed	Samples exploited
Water from wells, springs and boreholes	10	10	10	10
Bottled water: spring, mineral and other water	14	8	14	9
Mains and drinking fountain water	9	8	9	8
Total	33	26	36	27

A total of 36 samples was analyzed, 29 were exploited for the incubation temperature of 22°C and 27 for an incubation temperature of 36°C. Samples that were not retained in the statistical analysis correspond to samples for which enumerations were inferior to 3 CFU/mL or superior to the limit of detection for at least one of the replicates of the two methods.

A part of the samples was artificially contaminated. The contamination levels cover the measuring range of the alternative method. All contaminations were performed by mixing with contaminated waters.

3.2.2. Raw results

Raw results presented in Appendix D and statistical calculations in Tables 5 and 6.

Figures 2 and 3 show the two-dimensional graphs for the categories, respectively, in log CFU/mL. The y-axis is reserved for the alternative method and the x- axis for the reference method. The representation of a line of equation “ $y = x$ ” figures dashed on the graphs.

Figure 2: two-dimensional graph for an incubation temperature of 22°C after 64 and 72 h

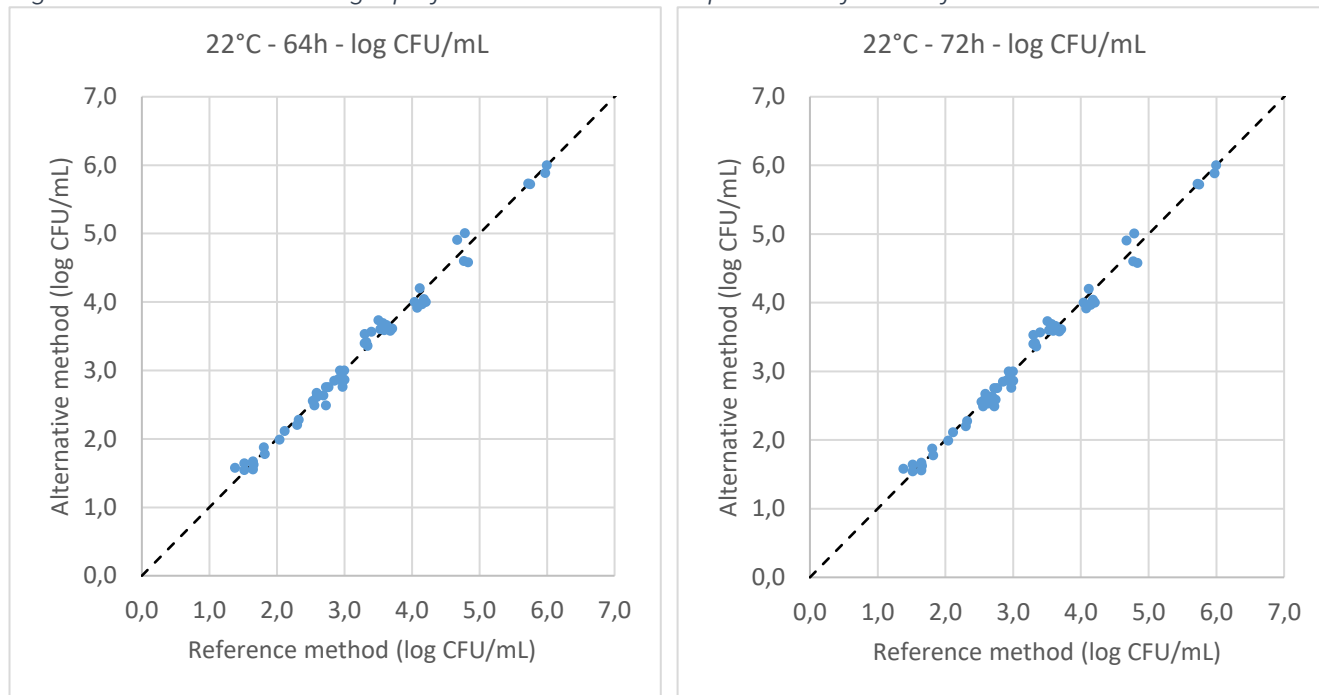
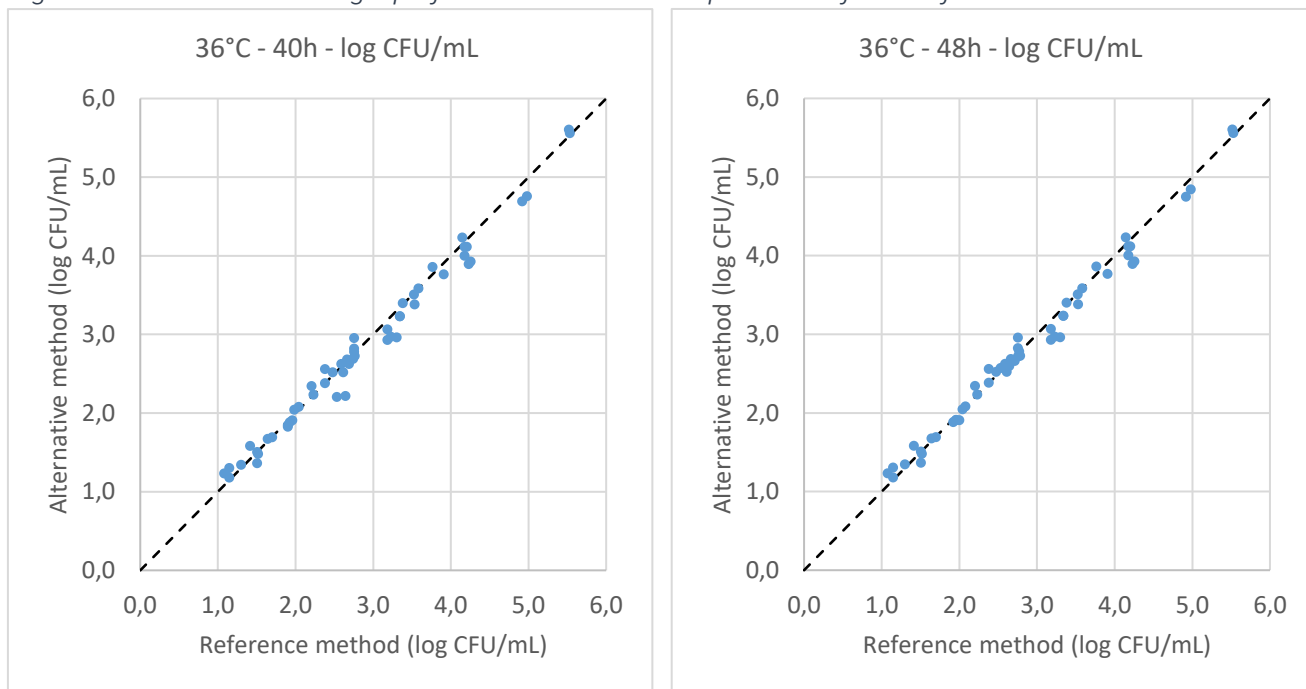


Figure 3: two-dimensional graph for an incubation temperature of 36°C after 40 and 48 h



3.2.3. Statistical exploitation

The relationship of relative accuracy between the reference method and the alternative method is evaluated with the linear model: ' $y = a + bx$ '. This formula corresponds to the equation of the linear regression drawn from raw results obtained by experimentation, y representing the alternative method and x the reference method.

There is a perfect accuracy (or there is no systematic bias) between the two methods if this equation is equal to the theoretical ' $y = x$ ' equation, which applies in the ideal model where the two methods behave similarly.

The intercept is theoretically zero in this ideal model (hypothesis [$a = 0$]). The estimated intercept obtained with the two methods is checked using $p \{a = 0\}$. If the alternative method is a systematic bias against the reference method, the probability $p \{a = 0\}$ is less than $\alpha = 0.05$.

The ' b ' slope is theoretically equal to 1 in the ideal model (hypothesis [$b = 1$]). The estimated slope obtained with the two methods should pass 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 $\alpha = 0.05$.

The linear regression method is chosen over the value of the robustness of the ratio R of overall repeatability standard deviation:

- if $\text{Rob.R} > 2$, linear regression by least-squares (OLS 1) with the x-axis for the reference method,
- if $\text{Rob.R} < 0.5$, a linear regression by least-squares (OLS 2) with the x-axis for the alternative method,
- if $0.5 < \text{Rob.R} < 2$, orthogonal regression (GMFR) with the x-axis to the reference method.

Table 5: statistical data (log CFU/mL) for all the incubation temperatures and times

Incubation temperature and time	Rob.R	Regression used	T critical	a	t(a)	b	t(b)	Probabilities (%)	
								Intercept at 0	Slope at 1
22°C – 64 h	1.225	GMFR	2.048	0.122	1.096	0.972	0.855	27.8	39.6
22°C – 72 h	1.204	GMFR	2.052	0.107	0.776	0.975	0.977	33.3	44.1
36°C – 40 h	1.081	GMFR	2.056	0.086	1.464	0.957	2.270	14.9	2.8
36°C – 48 h	1.028	GMFR	2.052	0.051	1.786	0.978	1.387	17.1	8.0

Table 6: bias and repeatability (log CFU/mL) for all the incubation temperatures and times

Incubation temperature and time	Bias (D)		Repeatability			
	Average	Median	r		rob. r	
			RM	AM	RM	AM
22°C – 64 h	0.030	0.006	0.182	0.170	0.118	0.145
22°C – 72 h	0.030	-0.001	0.187	0.171	0.122	0.146
36°C – 40 h	-0.040	-0.032	0.157	0.193	0.147	0.159
36°C – 48 h	-0.010	-0.008	0.222	0.190	0.154	0.158

The equations for the regression line and the correlation coefficient are as follows:

Table 7: equation of the regression lines and correlation coefficients at all the incubation temperatures and times

Incubation temperature	Incubation time	Equation of the regression line	Correlation coefficient r
22°C	64 hours	$\log \text{Alt.} = 0.972 \log \text{Ref.} + 0.122$	0.986
	72 hours	$\log \text{Alt.} = 0.975 \log \text{Ref.} + 0.107$	0.986
36°C	40 hours	$\log \text{Alt.} = 0.957 \log \text{Ref.} + 0.086$	0.995
	48 hours	$\log \text{Alt.} = 0.978 \log \text{Ref.} + 0.051$	0.998

For all incubation temperatures and times, the hypothesis $\{a = 0 \text{ and } b = 1\}$ is accepted, except for the incubation temperature of 36°C for an incubation time of 40 h, where the hypothesis $\{b=0\}$ is rejected. However, the correlation coefficients are correct.

The median bias calculated between the alternative method and the reference method is very low: -0.001 log CFU/mL at 22°C and -0.008 log CFU/mL at 36°C at the maximum incubation times.

Whatever the incubation temperatures and times, the calculated limits of repeatability are similar for the two methods.

3.2.4. Conclusion

The correlation between the reference method and the alternative method is correct at the minimum and at the maximum incubation intervals of the two incubation temperatures.

Limits of repeatability at 22°C are between 0.145 – 0.146 log CFU/mL for the alternative method and between 0.118 – 0.122 log CFU/mL for the reference method. At 36°C, they are between 0.159 – 0.158 log CFU/mL for the alternative method and between 0.147 – 0.154 log CFU/mL for the reference method.

The bias vary between -0.006 to -0.001 log CFU/mL from 64 to 72 hours at an incubation temperature of 22°C and between -0.032 to -0.008 log CFU/mL from 40 to 48 hours at an incubation temperature of 36°C.

3.3. Detection and quantification limits

The detection and quantification limits are checked in accordance with the standard EN ISO 16140. Three parameters are determined.

Here are their ISO 16140 definitions:

- the critical level (LC) is the smallest amount which can be detected (not null), but not quantified as an exact value. Below this value, it cannot be sure that the true value is not null. At this level, the false negatives probability β is 50 % (β is the second type of statistical error).
- the detection limit (LOD) is higher than the critical level, because it involves a power, the probability $1 - \beta$, which has to be well over 50 %, for example 95 %.
- the quantification limit (LOQ) is the smallest amount of analyte, (that is the lowest actual number of organisms), which can be measured and quantified with defined precision and accuracy under the experimental conditions by the method under validation.

3.3.1. Protocols

Detection and quantification limits were determined by analyzing with the alternative method:

- at 22°C of incubation: a pure culture of a *Bacillus pumilus* strain (MZK783), isolated from a river water, in a sterile bottled water,
- at 36°C of incubation: a pure culture of an *Escherichia coli* strain (DNC046), isolated from a well water, in a sterile tap water.

Nine levels of contamination, with six repetitions for each level, have been studied.

3.3.2. Results

Raw results are presented in Appendix E and the summary in the following tables.

Table 8: data (s_0 and x_0) for the enumeration of *B. pumilus* in tap water at 22°C (underlined: the reference level)

Level (CFU/mL)	Number of positive samples	Standard deviation (s_0)	Bias (x_0)
0.0	0	0.000	0.0
0.5	1	0.408	0.0
<u>0.6</u>	<u>3</u>	<u>0.548</u>	<u>0.5</u>
0.8	5	0.753	1.0
1.0	5	0.753	1.0
1.5	5	0.816	1.5
2.0	5	1.265	2.5
2.5	6	1.366	2.5
3.0	6	0.548	4.5

Table 9: data (s_0 and x_0) for the enumeration of *E. coli* in tap water at 36°C (underlined: the reference level)

Level (CFU/mL)	Number of positive samples	Standard deviation (s_0)	Bias (x_0)
0.0	0	0.000	0.0
0.5	2	0.516	0.0
<u>0.6</u>	<u>3</u>	<u>0.816</u>	<u>0.5</u>
0.8	4	0.408	1.0
1.0	5	0.753	1.0
1.5	4	1.211	1.5
2.0	5	1.673	2.0
2.5	5	1.169	2.0
3.0	6	1.366	2.0

3.3.3. Conclusion

The calculated values of the critical level, the detection limit and the quantification limit at 22°C and at 36°C are presented in Table 10.

Table 10: LC, LOD and LOQ values of the alternative method at 22°C and at 36°C

Incubation temperature	Parameter	Formulas	Value obtained (CFU/mL)
22°C	Critical level	$1.65 s_0 + x_0$	1.85
	Detection limit	$3.3 s_0 + x_0$	3.19
	Quantification limit	$10 s_0 + x_0$	8.66
36°C	Critical level	$1.65 s_0 + x_0$	1.40
	Detection limit	$3.3 s_0 + x_0$	2.31
	Quantification limit	$10 s_0 + x_0$	5.98

The limits of detection and the limits of quantification of the alternative method are correct.

3.4. Practicability

The practicability is studied by filling in the 13 criteria defined by the Technical Board.

- Procedure for conditioning the elements of the method

Sterile EasyDisc YEA plates are packed by 25 or 100 in plastic sleeves.

- Reagent volume

Not concerned.

- Conditions of storage of the elements (expiry date for unopened products)

EasyDisc YEA plates storage temperature is between 2 and 25°C away from light and humidity. Expiration date is located on the outer kit label and Quality Control Certificate. The product has 12-month shelf life.

- Modalities of use after the first use (expiry dates for use)

The desiccant must not be removed from the bag upon opening. After each use, the foil bag is sealed by folding at least twice before securing with tape or clip.

- Specific equipment or premises required

Not concerned.

- Reagents ready-to-use or to be reconstituted

There is no reagent to restore.

- Period required to train an operator not initiated into the method

The use of the EasyDisc YEA plates requires no specific training. The duration of training is estimated at 30 minutes.

- Real-time handling and flexibility of the method depending on the number of samples to be analyzed.

The duration of use of the method EasyDisc YEA plates is about 4 min.

The alternative method doesn't require any confirmation step or the use of toxic reagent.

- Time required for obtaining the results

Time-to-result for the EasyDisc YEA method is the same than for ISO 6222 method: 64 to 72 hours at 22°C and 40 to 48 hours at 36°C.

- Operator qualification type

The qualification of the operator is similar to the qualification needed for the reference method.

- Phases shared with the reference method

None.

- Means or traceability of the analysis results for the user

No traceability procedure is proposed. The laboratory shall use its internal procedures.

- Obligation to maintain specific apparatus for the user

None.

4. Interlaboratory study

The main object of the collaborative 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.

4.1. Study organisation

4.1.1. Participating laboratories

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

4.1.2. Matrix and strain

A natural mineral water was used as a test matrix. It was contaminated with a strain of *Enterococcus durans* YHW642, isolated from well water.

The absence of total microflora in this matrix before the contamination was checked using the reference method.

4.1.3. Stability of the strain in the matrix

The stability of the strain in the matrix was evaluated for 3 days at $5\pm 3^{\circ}\text{C}$. Results of the enumerations are presented in table 11.

Table 11: results of the enumerations in CFU/ mL at 36°C and 22°C of the culturable microorganisms in natural mineral water for 3 days at $5\pm 3^{\circ}\text{C}$

	Yeast Extract at 22°C			Yeast Extract at 36°C		
Day	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
Target	80 to 120	300 to 500	2000 to 3000	80 to 120	300 to 500	2000 to 3000
D0	89	510	2900	87	440	2800
D1	84	460	3100	84	420	2700
D2	83	530	3400	86	420	3300

The tested strain looks stable at $5\pm 3^{\circ}\text{C}$ in the matrix.

4.1.4. Samples preparation and spiking

The matrix was inoculated with the target strain suspension to obtain 4 contamination levels:

- level 0 : 0 CFU/100 mL,
- level 1 : from 80 to 120 CFU/ mL,
- level 2 : from 300 to 500 CFU/ mL,
- level 3 : from 2000 to 3000 CFU/ mL.

The matrix was distributed at 20 mL 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 and 1 water sample containing a temperature probe.

The results of the enumerations of culturable microorganisms, the target levels and the real levels of contamination are presented in table 12.

Table 12: target level and real level (in CFU/mL and log CFU/mL)

Level	Target level CFU/mL	Real level CFU/mL	Real level log CFU/mL
0	0	0	0
1	80 to 120	108	2.0
2	300 to 500	500	2.7
3	2000 to 3000	3600	3.6

4.1.5. Samples labelling

The labeling of the vials was realized as follows: a code to identify the laboratory: from A to N, and a code to identify each sample (cf. table 13), only known by the expert laboratory. The samples and the temperature control vial (water sample with a temperature probe) were stored at 5°C before shipping.

Table 13: sample code by contamination level

Contamination level (CFU/mL)	Sample code
0	① & ⑥
80 to 120	③ & ⑧
300 to 500	② & ④
2000 to 3000	⑤ & ⑦

4.1.6. Samples shipping, reception and analysis

The samples were shipped in a coolbox the 24 January 2022.

The coolboxes were received in 24 hours for all 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 25 January 2022. The Expert Laboratory concurrently analyzed a set of samples under the same conditions with both methods.

The analyzes were thus carried out by the 14 participating laboratories.

4.2. Results

4.2.1. Temperature and state of the samples at reception

The temperature readings at reception, the state of the samples and probes data are shown in table 14.

Table 14: temperature and state of the samples upon reception

Laboratory	Date and hour of reception		Temperature upon reception	State of the samples	Temperature (°C) recorded by the probe	
					At reception	Mean
A	25/01/2022	9h00	0.8°C	Good	0.0	0.4
B	25/01/2022	14h30	6.2°C	Good	3.0	1.6
C	25/01/2022	13h50	4.8°C	Good Samples 6,7,8: slightly frozen	1.0	0.0
D	25/01/2022	14h00	3.0°C	Good	1.0	0.5
E	25/01/2022	11h00	3.3°C	Good	1.0	0.7
F	25/01/2022	11h40	4.6°C	Good All samples: slightly frozen	0.0	0.7
G	25/01/2022	10h45	2.5°C	Good	0.0	0.6
H	25/01/2022	14h45	2.6°C	Good All samples: slightly frozen	0.5	0.9
I	25/01/2022	13h50	3.4°C	Good	1.0	0.5
J	25/01/2022	14h15	5.5°C	Good	0.0	0.6
K	25/01/2022	14h30	2.4°C	Good	1.0	0.4
L	25/01/2022	09h30	0.1°C	Good Samples 5,6: slightly frozen	0.0	0.6
M	25/01/2022	11h10	5.9°C	Good	0.5	1.3
N	25/01/2022	08h45	3.8°C	Good Sample 6: slightly frozen	0.0	0.8

Temperatures are correct for 14 laboratories.

Laboratories C, F, H, L and N observed freeze crystals in some samples upon receipt.

The analyzes of the thermal profiles of the probes showed that the shipment of the samples took place at the right temperature, with averages close to 0°C. However, the temperatures measured on receipt by the various laboratories are well between 0°C and 10°C.

4.2.2. Results from participating laboratories and expert laboratory

The results concerning the enumerations carried out at 22°C are presented in Table 15 and the enumerations carried out at 36°C are presented in Table 16. Raw results are in Appendix F.

Table 15: results of the enumerations at 22°C of the interlaboratory study

Laboratory	Level 0				Level 1				Level 2				Level 3			
	RM		AM		RM		AM		RM		AM		RM		AM	
	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2
	①	⑥	①	⑥	③	⑧	③	⑧	②	④	②	④	⑤	⑦	⑤	⑦
A	<1	<1	<1	<1	120	140	120	100	540	550	720	630	2800	3800	2500	2100
B	<1	<1	<1	<1	100	110	90	80	410	440	480	530	3000	2700	2200	3000
C	<1	<1	<1	<1	70	100	100	110	620	600	750	480	3000	3030	2700	2850
D	<1	<1	<1	<1	110	125	110	120	627	550	680	545	4100	3300	3500	3500
E	<1	1	<1	<1	110	130	110	120	580	590	540	660	2700	3000	2900	2900
F	<1	<1	<1	<1	100	140	110	100	500	470	580	730	3000	3200	2800	2900
G	<1	<1	<1	<1	110	120	110	100	460	410	640	510	3500	2900	3500	2500
H	<1	<1	<1	<1	120	105	120	120	610	610	540	490	2800	2000	4400	4000
I	<1	<1	<1	<1	110	120	110	110	640	450	730	540	3000	3300	2800	2800
J	<1	<1	<1	<1	110	110	95	130	490	470	600	590	2980	2420	2670	2510
K	<1	<1	<1	<1	120	120	140	120	550	440	750	510	3400	3100	4100	2500
L	<1	<1	<1	<1	120	130	130	120	590	570	710	550	2500	3500	3700	3900
M	<1	<1	<1	<1	110	120	90	190	590	710	510	620	3600	3600	3500	2400
N	<1	<1	<1	<1	140	110	110	110	650	610	550	570	2600	3800	3400	2800
Expert	<1	<1	<1	<1	120	120	120	130	720	550	550	710	3400	2700	3300	3800

Table 16: results of the enumerations at 36°C of the interlaboratory study

Laboratory	Level 0				Level 1				Level 2				Level 3			
	RM		AM		RM		AM		RM		AM		RM		AM	
	R1 ①	R2 ⑥	R1 ①	R2 ⑥	R1 ③	R2 ⑧	R1 ③	R2 ⑧	R1 ②	R2 ④	R1 ②	R2 ④	R1 ⑤	R2 ⑦	R1 ⑤	R2 ⑦
A	<1	<1	<1	<1	120	120	110	110	650	630	580	530	2600	3000	2400	2100
B	<1	<1	<1	<1	90	100	100	100	460	590	440	500	2300	2300	2200	2300
C	<1	<1	<1	<1	110	95	130	110	450	550	470	360	2750	2600	2700	3760
D	<1	<1	<1	<1	130	130	130	130	455	600	645	620	3500	3300	2800	3500
E	<1	<1	<1	<1	110	120	120	55	540	660	550	620	2900	2900	2900	2700
F	<1	<1	<1	<1	95	110	110	110	470	440	470	550	3500	2800	3000	2300
G	<1	<1	<1	<1	110	110	110	100	360	530	600	480	2800	3100	2800	3100
H	<1	<1	<1	<1	130	100	120	130	570	530	590	540	2500	4200	4800	3000
I	<1	<1	<1	<1	130	120	100	100	670	420	480	290	2800	3500	2800	2600
J	<1	<1	<1	<1	100	110	120	120	440	545	645	530	2655	3000	2670	2660
K	<1	<1	<1	<1	130	120	110	130	460	460	430	560	2800	3700	3000	3900
L	<1	<1	<1	<1	100	95	120	110	540	630	640	620	2900	3900	3500	3400
M	<1	<1	<1	<1	100	120	100	90	680	750	550	510	4200	3300	3200	3500
N	<1	<1	<1	<1	130	110	120	110	550	750	580	550	4200	4200	3000	3000
Expert	<1	<1	<1	<1	130	135	105	115	500	490	570	550	4100	2900	3400	2600

For level 0, all the results were lower than 1 CFU/mL for both methods except for laboratory E which counted 1 colony on a sample for counting at 22°C (table 15) only with the reference method. The matrix used for this study is a natural mineral water which has not been sterilized. The various tests carried out by the Expert Laboratory have shown a very low bacterial load (close to zero) and in the case of Laboratory E it may be this type of flora, naturally present in the water that grew. The results of Laboratory E will therefore be kept because this does not impact the enumerations of the higher levels.

For a better appreciation of the data, the data obtained by the laboratories are presented in the two-dimensional graphics of the figure 4 for the enumeration of flora at 22°C and the figure 5 for the enumeration of flora at 36°C in log CFU/mL.

Figure 4: two-dimensional graphics for enumeration of flora at 22°C.

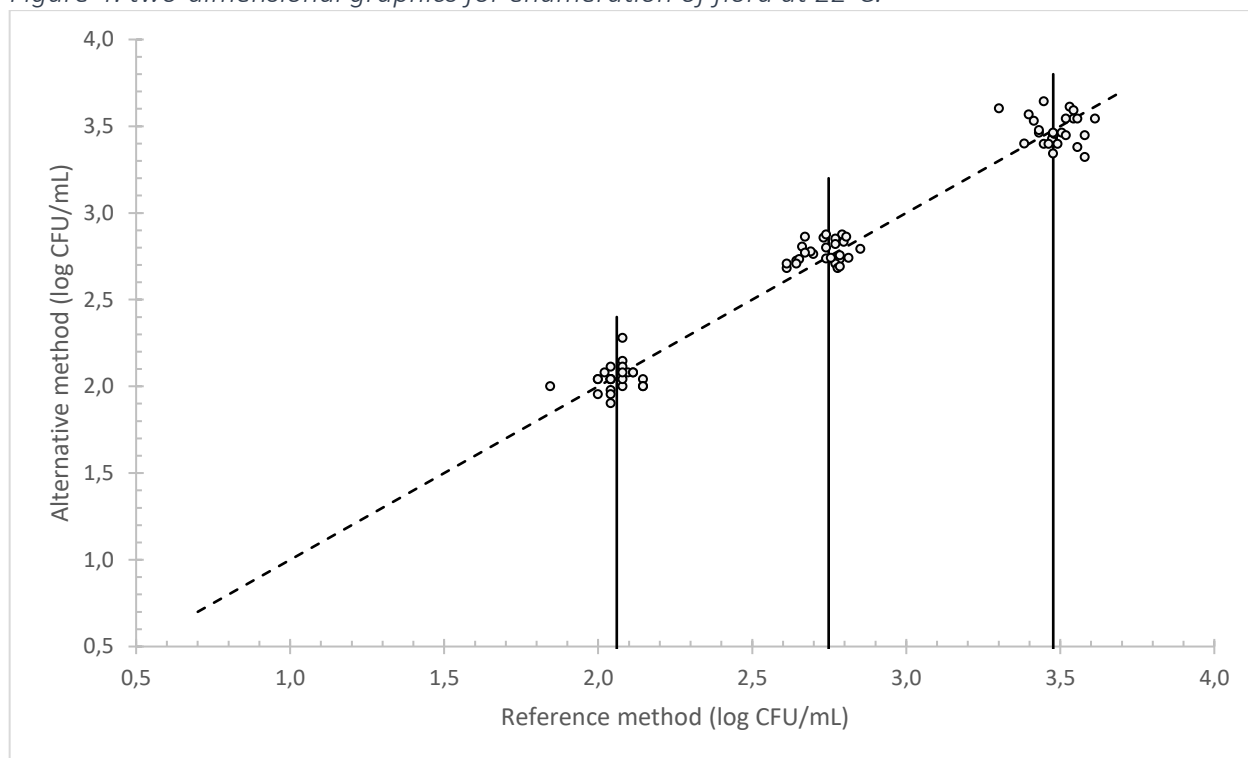
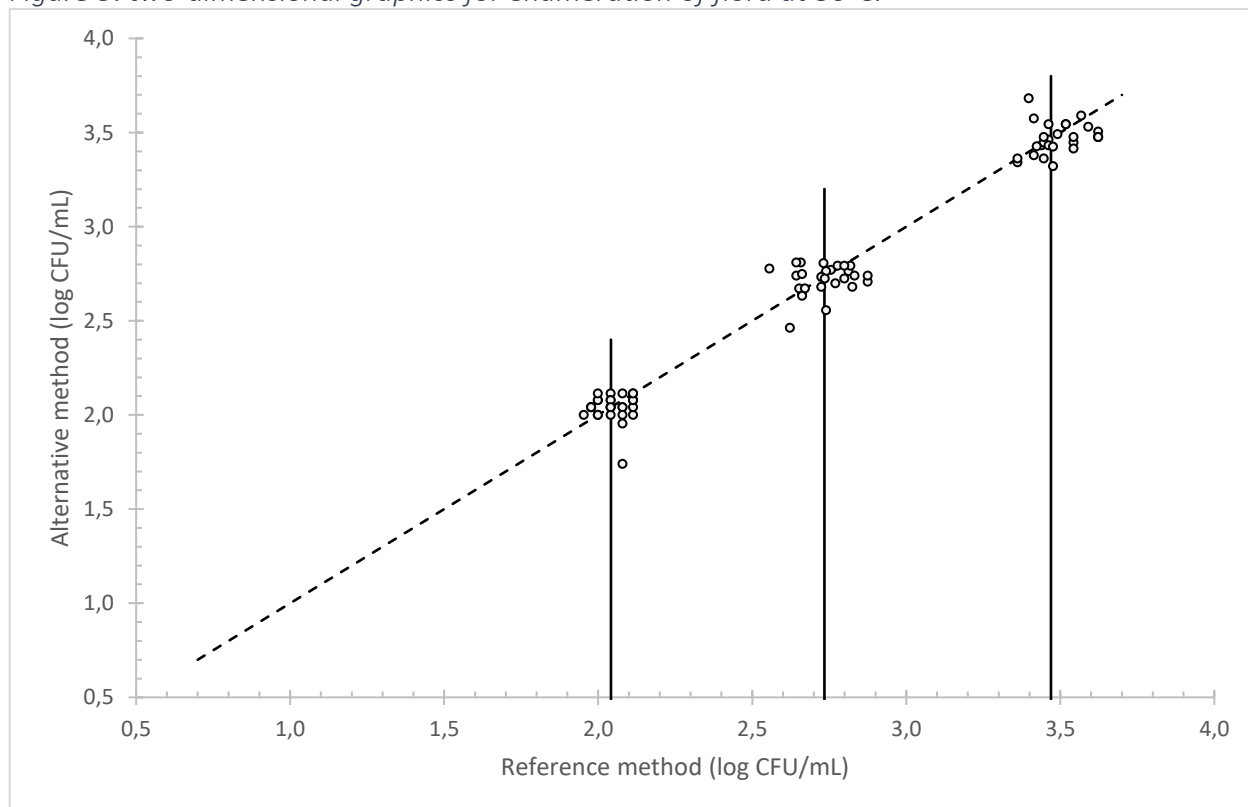


Figure 5: two-dimensional graphics for enumeration of flora at 36°C.



4.3. Statistical interpretation

Data presented in the following paragraphs were calculated from results converted in logarithm.

4.3.1. Bias

Table 17 presents the target value, the mean, and the bias for each level of contamination for enumerations at 22°C and at 36°C.

Table 17: calculations of the bias of the alternative method for enumerations at 22°C and 36°C

Values	Log CFU/mL at 22°C			Log CFU/mL at 36°C		
Levels	1 - low	2 - medium	3 - high	1 - low	2 - medium	3 - high
Target value	2.079	2.748	3.477	2.041	2.732	3.470
Mean	2.052	2.774	3.481	2.040	2.722	3.468
Bias	-0.027	0.026	0.004	-0.002	-0.010	-0.002

The accuracy is estimated by the bias which varies for enumeration of flora at 22°C between -0.027 log CFU/mL and 0.026 log CFU/mL. For enumeration at 36°C, the bias varies between -0.010 log CFU/mL and -0.002 log CFU/mL.

4.3.2. Accuracy profile

Table 18 shows the tolerance values and limits of the alternative method for the different values of probability of tolerance and the limits of acceptability.

Table 18: tolerance values for the alternative method at 22°C and 36°C

Tolerance probability	Levels	Log CFU/mL at 22°C			Log CFU/mL at 36°C		
		Low	Medium	High	Low	Medium	High
95%	Low tolerance value	-0.173	-0.126	-0.173	-0.149	-0.171	-0.169
	High tolerance value	0.119	0.177	0.180	0.146	0.152	0.165
	Tolerance limits	±0.300	±0.300	±0.300	±0.300	±0.300	±0.300

Figures 6 and 7 present the accuracy profiles for enumerations at 22°C and at 36°C.

Figure 6: accuracy profile for a tolerance probability of 95% and a tolerance limit of 0,3 log for enumeration at 22°C

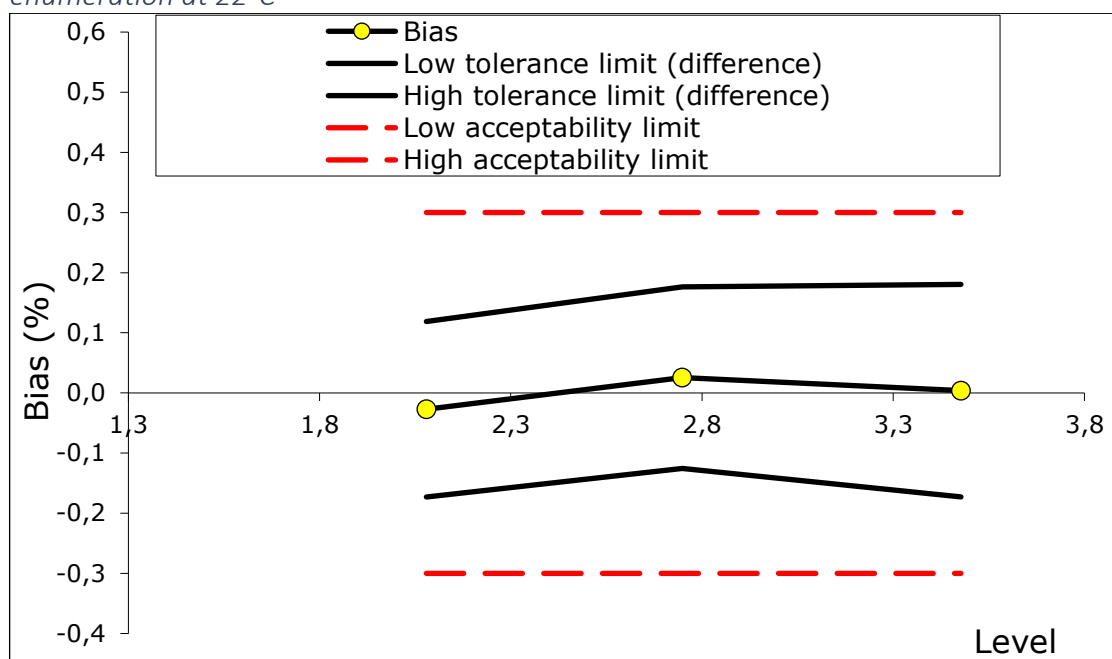
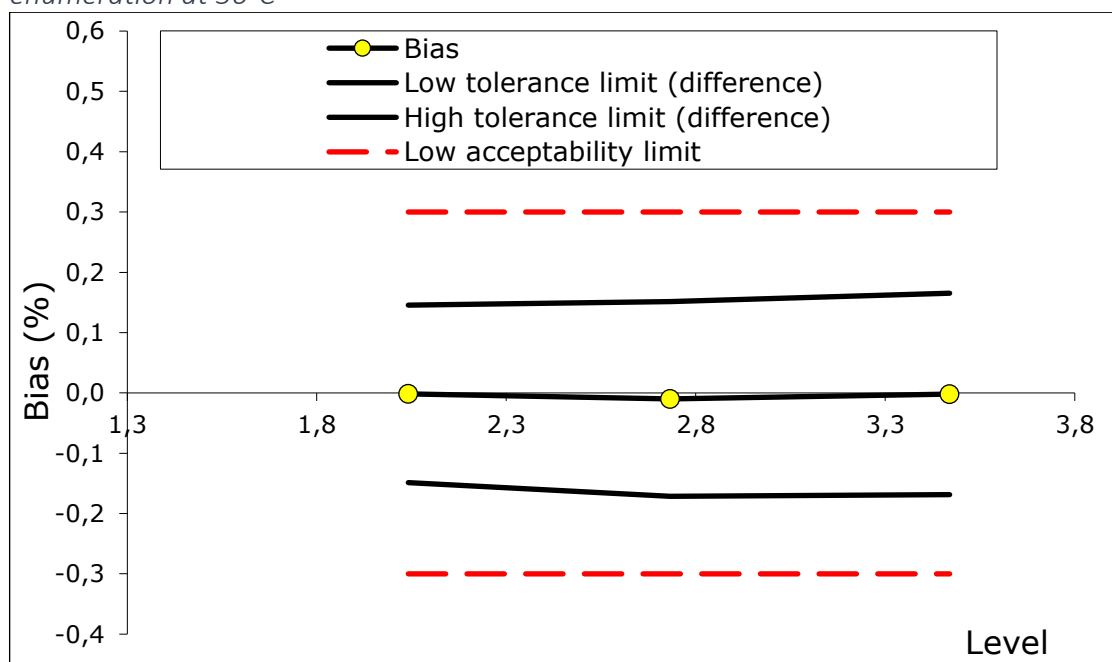


Figure 7: accuracy profile for a tolerance probability of 95% and a tolerance limit of 0,3 log for enumeration at 36°C



- Comments :

For the flora at 22°C, the very slightly negative bias observed at the low level becomes slightly positive for the 2 upper levels.

Concerning the flora at 36°C, a very slight negative bias is observed for the 3 levels of contamination. For all the contamination levels, the tolerance interval is comprised between the acceptability interval for a 95% tolerance probability and a limit at 0.3 log CFU/mL.

5. Conclusions

- **Method comparison study**

The linearity study of the EasyDisc YEA method is satisfactory, with a good correlation with the ISO 6222 method both at 22°C and at 36°C.

The relative accuracy study also shows a good correlation between the reference method and the alternative method at the minimum and at the maximum incubation intervals of the two incubation temperatures.

The bias of the alternative method is very low at both incubation temperatures.

The limits of detection and the limits of quantification of the alternative method are correct at both incubation temperatures.

The method is very easy to handle, and with a training period estimated at 30 minutes.

- **Interlaboratory study**

The bias of the alternative method is relatively stable from the low level of contamination to the high level of contamination for enumerations at 22°C and at 36°C.

For all levels of contamination, the tolerance limits are between the limits of acceptability, meaning that at least 95% of the results will be between the limits of acceptability as defined at 0.3 log CFU/mL.

Le Lion d'Angers, January 19, 2026
Guillaume MESNARD
Method Validation Supervisor



APPENDICES

APPENDIX A

Protocol of the alternative method



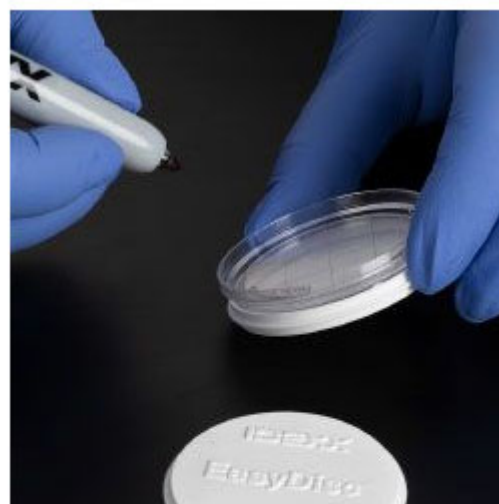
Step 1. Remove lid and add 1 mL sample to the EasyDisc YEA plate.



Step 2. Gently swirl the plate to distribute the liquid, replace the lid, and incubate at room temperature for 20 minutes.



Step 3. Continue incubating at $22^{\circ} \pm 2^{\circ}\text{C}$ for 68 ± 4 hours or $36^{\circ} \pm 2^{\circ}\text{C}$ for 44 ± 4 hours



Step 4. Count all colonies.

APPENDIX B

Protocol of the reference method

Preparation and Inoculation

Place a volume of the test sample (or its dilution) not exceeding 2 ml in the Petri dish

Add 15 ml to 20 ml of the molten yeast extract agar medium and mix carefully by gentle rotation; allow the medium to set.

Time between addition of the test sample (or its dilution) and addition of the molten medium shall not exceed 15 min.



Incubation

Invert the plates and incubate one set at $(36 \pm 2) ^\circ\text{C}$ for (44 ± 4) h; incubate the other set at $(22 \pm 2) ^\circ\text{C}$ for (68 ± 4) h.



Examination and counting

Examine the plates as soon as they are removed from the incubators; if this is not possible, store them at $(5 \pm 3) ^\circ\text{C}$ and examine them within 48 h. Reject any plate with confluent growth.

For each temperature of incubation, and following the procedures described in ISO 8199, count the colonies present in each plate and calculate the estimated number of colony forming units present in 1 ml of sample.



Expression of the results

Express the results as the number of colony-forming units per millilitre (cfu/ml) of the sample for each temperature of incubation.

If there are no colonies in the plates inoculated with the test volumes of the undiluted sample, express the results as not detected in one millilitre. If there are more than 300 colonies on the plates inoculated with the highest dilutions used, express the results as > 300 or as approximate only

APPENDIX C

LINEARITY

Raw results & statistical calculations

Linearity - Raw results

Linearity *Aeromonas* sp. at 22°C

Inoculation level (CFU/ mL)	Matrix	Strain	Origin	NF ISO 6222(■)- 22°C		
				Repetition 1	Repetition 2	Mean
				CFU/ plate	CFU/ plate	
10	Tap water	<i>Aeromonas</i> sp. ABB472	River water	15	14	14,5
50				61	52	56,5
100				102	103	102,5
150				190	170	180
200				250	260	255
250				270	270	270
1000				1500	1280	1390
5000				3300	3900	3600
10000				12300	13000	12650

Inoculation level (CFU/ mL)	Matrix	Strain	Origin	EasyDisc YEA		
				Repetition 1	Repetition 2	Mean
				CFU/ disc	CFU/ disc	
10	Tap water	<i>Aeromonas</i> sp. ABB472	River water	15	14	14
50				64	55	59,5
100				134	122	122
150				200	180	190
200				230	240	235
250				270	260	265
1000				1450	1340	1395
5000				3500	4700	4100
10000				12600	14600	13600

Linearity - 22°C - log data

Level	Reference method			
	Rép.1	Rép.2	M	SD
1	1,176	1,146	1,2	0,021
2	1,785	1,716	1,8	0,049
3	2,009	2,013	2,0	0,003
4	2,279	2,230	2,3	0,034
5	2,398	2,415	2,4	0,012
6	2,431	2,431	2,4	0,000
7	3,176	3,107	3,1	0,049
8	3,519	3,591	3,6	0,051
9	4,090	4,114	4,1	0,017

Alternative method			
Rép.1	Rép.2	M	SD
1,176	1,146	1,2	0,021
1,806	1,740	1,8	0,047
2,127	2,086	2,1	0,029
2,301	2,255	2,3	0,032
2,362	2,380	2,4	0,013
2,431	2,415	2,4	0,012
3,161	3,127	3,1	0,024
3,544	3,672	3,6	0,091
4,100	4,164	4,1	0,045

q = 9
n = 2
N = qn = 18

Mx = 2,535
MEDx = 2,406
SDbx = 0,918

MEDwx = 0,021
SDwx = 0,032
rob. SDwx = 0,031

My = 2,555
MEDy = 2,371
SDby = 0,924

MEDwy = 0,029
SDwy = 0,029
rob. SDwy = 0,043

Choix méthode GMFR

R = 0,909
rob.R = 1,360
Res.SEM = 0,045
Res.SD = 0,064

Sx = 0,435
Sy = 0,457

r = 0,997
b = 1,049
a = -0,104

Sb = 0,037
Sa = 0,094

p(t;b=1) = 0,201
p(t;a=0) = 0,288

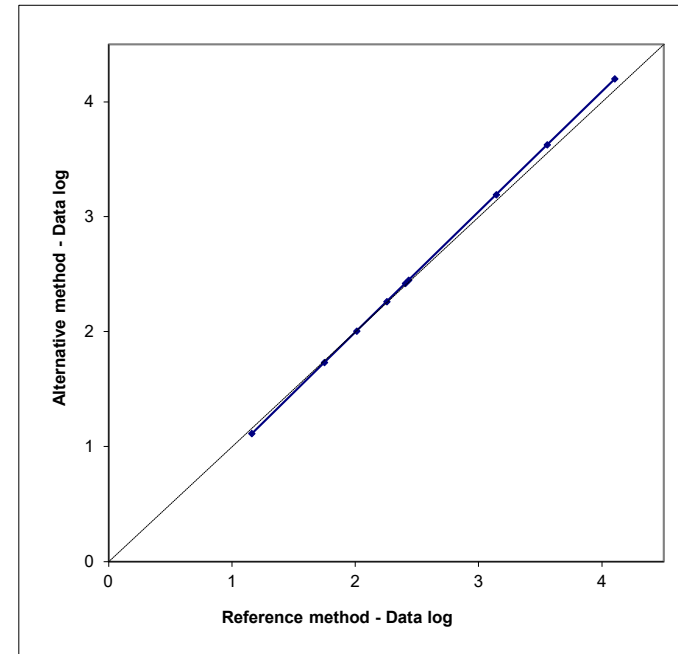
t (b) = 1,334
t (a) = 11,686

Est y	Déviation
1,114	0,047
1,733	0,041
2,006	0,101
2,261	0,017
2,421	-0,050
2,447	-0,024
3,192	-0,048
3,625	-0,017
4,199	-0,067

Linéarité

F = 9,522
rob.F = 3,857

p(F) = 0,002
rob.p(F) = 0,032



Linearity - Raw results

Linearity *Enterococcus durans* at 36°C

Inoculation level (CFU/ mL)	Matrix	Strain	Origin	NF ISO 6222(■) - 36°C		
				Repetition 1	Repetition 2	Mean
				CFU/ plate	CFU/ plate	
10	Bottled water	<i>Enterococcus durans</i> YHW642	Well water	21	11	16
50				49	56	52,5
100				66	65	65,5
150				118	55	86,5
200				190	218	204
250				254	190	222
1000				840	960	900
5000				5400	5900	5650
10000				16000	18000	17000

Inoculation level (CFU/ mL)	Matrix	Strain	Origin	EasyDisc YEA		
				Repetition 1	Repetition 2	Mean
				CFU/ disc	CFU/ disc	
10	Bottled water	<i>Enterococcus durans</i> YHW642	Well water	11	11	11
50				56	51	53,5
100				59	59	59
150				127	154	140,5
200				163	145	154
250				190	290	240
1000				1200	1100	1150
5000				9900	10000	9950
10000				16000	16000	16000

Linearity - 36°C - log data

Niveau
1
2
3
4
5
6
7
8
9

q = 9
n = 2
N = qn = 18

Reference method			
Rép.1	Rép.2	M	SD
1,322	1,041	1,2	0,199
1,690	1,748	1,7	0,041
1,820	1,813	1,8	0,005
2,072	1,740	1,9	0,234
2,279	2,338	2,3	0,042
2,405	2,279	2,3	0,089
2,924	2,982	3,0	0,041
3,732	3,771	3,8	0,027
4,204	4,255	4,2	0,036

Mx = 2,468
MEDx = 2,309
SDbx = 0,999

MEDwx = 0,041
SDwx = 0,110
rob. SDwx = 0,061

Alternative method			
Rép.1	Rép.2	M	SD
1,041	1,041	1,0	0,000
1,748	1,708	1,7	0,029
1,771	1,771	1,8	0,000
2,104	2,188	2,1	0,059
2,212	2,161	2,2	0,036
2,279	2,462	2,4	0,130
3,079	3,041	3,1	0,027
3,996	4,000	4,0	0,003
4,204	4,204	4,2	0,000

My = 2,501
MEDy = 2,187
SDby = 1,058

MEDwy = 0,027
SDwy = 0,051
rob. SDwy = 0,040

Choix méthode GMFR

R = 0,460
rob.R = 0,652
Res.SEM = 0,099
Res.SD = 0,140

Sx = 0,972
Sy = 1,027

r = 0,992
b = 1,056
a = -0,106

Sb = 0,036
Sa = 0,095

p(t;b=1) = 0,138
p(t;a=0) = 0,281

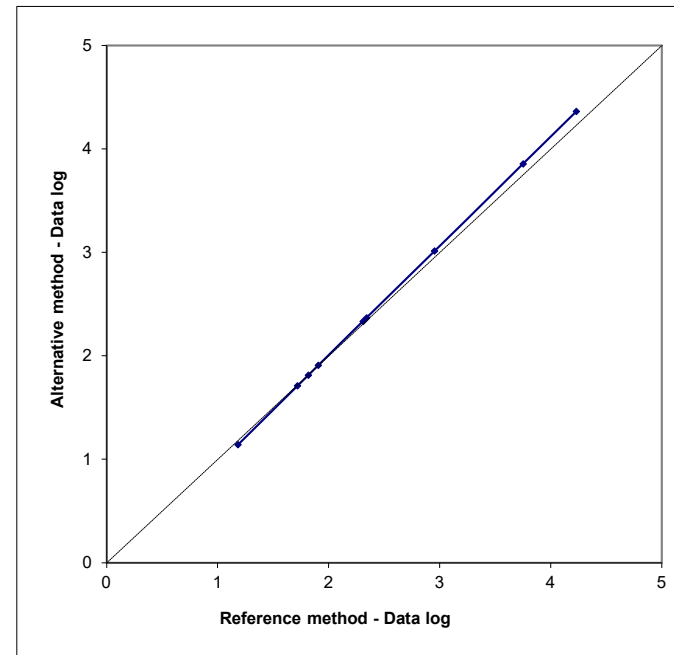
t (b) = 1,560
t (a) = 11,640

Est y	Déviation
1,142	-0,101
1,710	0,018
1,813	-0,042
1,908	0,238
2,333	-0,146
2,368	0,003
3,014	0,047
3,857	0,141
4,362	-0,158

Linéarité

F = 16,184
rob.F = 27,417

p(F) = 0,000
rob.p(F) = 0,000



APPENDIX D

RELATIVE ACCURACY

Raw results & statistical calculations

Code	Echantillon d'eau		Cat	CA	Dil.	NF EN ISO 6222:1999												Méthode EasyDisc YEA																	
						Yeast extract agar												Colonies sur gélose EasyDisc																	
						Réplicat 1 (64h)			Réplicat 1 (72h)			Réplicat 2 (64h)			Réplicat 2 (72h)			Délai avant incubation	Nombre boîtes emplies	Dil.	Réplicat 1 (64h)			Réplicat 1 (72h)			Réplicat 2 (64h)			Réplicat 2 (72h)			Aspect des colonies		
CFU	Result	Log	CFU	Result	Log	CFU	Result	Log	CFU	Result	Log	CFU	Result	Log	CFU	Result	Log				CFU	Result	Log	CFU	Result	Log	CFU	Result	Log						
9	Puits	Juvardeil	1a	n	-1 100 -2 10	1 000	3,000		100 10	1 000	3,000	97 5	930	2,968	97 5	930	2,968	60'	6	-1 77 -2 3	730	2,863	77 3	730	2,863	80 4	760	2,881	80 4	760	2,881	Colonies bleues + violacées			
15	Puits	Peuton	1a	n	-2 38 -3 5	3 900	3,591		38 5	3 900	3,591	34 3	3 400	3,531	34 3	3 400	3,531	60'	8	-2 39 -3 4	3 900	3,591	39 4	3 900	3,591	39 5	4 000	3,602	39 5	4 000	3,602	Colonies bleues + blanches			
16	Forage	Quelaines	1a	n	p 43 -1 5	44	1,643		43 5	44	1,643	44 5	45	1,653	44 5	45	1,653	50'	8	p 44 -1 8	47	1,672	44 8	47	1,672	39 7	42	1,623	39 7	42	1,623	Colonies bleues + blanches			
17	Forage	Daumeray	1a	n	-1 73 -2 16	810	2,908		73 16	810	2,908	82 17	900	2,954	82 17	900	2,954	20'	8	-1 68 -2 13	740	2,869	68 13	740	2,869	78 13	830	2,919	78 13	830	2,919	Très petites colonies bleues et blanches			
18	Puits	Les Loges	1a	n	-2 35 -3 11	4 200	3,623		35 11	4 200	3,623	20 3	2 100	3,322	20 3	2 100	3,322	30'	8	-2 41 -3 10	4 600	3,663	41 10	4 600	3,663	26 3	2 600	3,415	26 3	2 600	3,415	Colonies bleues			
19	Puits	Les Raguinières	1a	n	-4 54 -5 7	560 000	5,748		54 7	560 000	5,748	56 2	530 000	5,724	56 2	530 000	5,724	45'	12	-4 55 -5 3	530 000	5,724	55 3	530 000	5,724	52 7	540 000	5,732	52 7	540 000	5,732	Colonies bleues			
21	Puits	Segré	1a	n	-1 >300 -2 39	3 900	3,591		>300 39	3 900	3,591	>300 37	3 700	3,568	>300 37	3 700	3,568	60'	14	-1 >300 -2 46	4 600	3,663	>300 46	4 600	3,663	>300 46	4 600	3,663	>300 46	4 600	3,663	Colonies bleues			
27	Forage	Quelaines (Le Monceau)	1a	n	p 60 -1 10	64	1,806		60 10	64	1,806	67 8	66	1,820	67 8	66	1,820	60'	12	p 75 -1 8	75	1,875	75 8	75	1,875	60 6	60	1,778	60 6	60	1,778	Colonies bleues + colonies incolores			
31	Puits	Bressuire	1a	n	-1 91 -2 18	990	2,996		91 18	990	2,996	80 15	860	2,934	80 15	860	2,934	50'	12	-1 91 -2 19	1 000	3,000	91 19	1 000	3,000	94 15	1 000	3,000	94 15	1 000	3,000	Colonies bleues			
32	Puits	Aviré	1a	n	-1 >300 -2 116	12 000	4,079		>300 116	12 000	4,079	>300 108	11 000	4,041	>300 108	11 000	4,041	45'	12	-1 >300 -2 83	8 300	3,919	>300 83	8 300	3,919	>300 103	10 000	4,000	>300 103	10 000	4,000	Colonies bleues + colonies violettes			
8	Source	Cristalline	1b	n	-1 >300 -2 48	4 800	3,681		>300 48	4 800	3,681	>300 51	5 100	3,708	>300 51	5 100	3,708	37'	6	-1 >300 -2 38	3800	3,580	>300 38	3 800	3,580	>300 41	4100	3,613	>300 41	4 100	3,613	64h: petites colonies incolores très difficiles à compter 72h: petites colonies incolores difficiles à compter			
22	Minérale	Hépar	1b	a	p >300 -1 39	390	2,591		>300 39	390	2,591	>300 39	390	2,591	>300 39	390	2,591	35'	14	p >300 -1 41	410	2,613	>300 41	410	2,613	>300 47	470	2,672	>300 47	470	2,672	Colonies bleues + incolores. Colonies très étalées sur Extrait levure et pas sur EasyDisc			
23	Source	Montagnes Alpes	1b	a	p >300 -1 58	580	2,763		>300 58	580	2,763	>300 53	530	2,724	>300 53	530	2,724	25'	14	p >300 -1 57	570	2,756	>300 57	570	2,756	>300 57	570	2,756	>300 57	570	2,756	Colonies bleues + colonies incolores			
24	Source gazeuse	San Pellegrino	1b	a	-1 >300 -2 20	2 000	3,301		>300 20	2 000	3,301	>300 25	2 500	3,398	>300 25	2 500	3,398	60'	12	-1 >300 -2 34	3 400	3,531	>300 34	3 400	3,531	>300 37	3 700	3,568	>300 37	3 700	3,568	Colonie en nappe sur extrait levure: lecture difficile Pas de colonie en nappe sur EasyDisc			
25	Minérale gazeuse	Marque U	1b	a	-1 >300 -2 32	3 200	3,505		>300 32	3 200	3,505	>300 37	3 700	3,568	>300 37	3 700	3,568	55'	12	-1 >300 -2 54	5 400	3,732	>300 54	5 400	3,732	>300 49	4 900	3,690	>300 49	4 900	3,690	Colonie en nappe sur extrait levure: lecture difficile Pas de colonie en nappe sur EasyDisc			
26	Minérale gazeuse	St Yorre	1b	a	-2 >300 -3 47	47 000	4,672		>300 47	47 000	4,672	>300 61	61 000	4,785	>300 61	61 000	4,785	40	12	-2 >300 -3 81	81 000	4,908	>300 81	81 000	4,908	>300 102	102 000	5,009	>300 102	102 000	5,009	Colonies bleues			
29	Minérale gazeuse	St Yorre	1b	a	-2 72 -3 6	710	2,851		72 6	710	2,851	89 14	940	2,973	89 14	940	2,973	30'	8	-2 68 -3 10	710	2,851	68 10	710	2,851	61 3	580	2,763	61 3	580	2,763	Colonies bleues			
30	Minérale gazeuse	Montcalm	1b	a	-2 123 -3 16	13 000	4,114		123 16	13 000	4,114	140 30	15 000	4,176	140 30	15 000	4,176	20'	8	-2 153 -3 18	16 000	4,204	153 18	16 000	4,204	115 10	11 000	4,041	115 10	11 000	4,041	Colonies bleues			
33	Source	St Alix	1b	a	-1 >300 -2 144	14 000	4,146		>300 144	14 000	4,146	>300 160	16 000	4,204	>300 160	16 000	4,204	28'	4	-1 >300 -2 93	9 300	3,968	>300 93	9 300	3,968	>300 104	10 000	4,000	>300 104	10 000	4,000	Colonies bleues			
35	Minérale	Marque u	1b	a	p 43 -1 5	44	1,643		43 5	44	1,643	24 2	24	1,380	24 2	24	1,380	35'	4	p 34 -1 6	36	1,556	34 6	36	1,556	34 8	38	1,580	34 8	38	1,580	Colonies bleues + colonies blanches			
36	Minérale gazeuse	Marque u	1b	a	-1 35 -2 5	360	2,556		35 5	360	2,556	33 4	340	2,531	33 4	340	2,531	30'	4	-1 30 -2 4	310	2,491	30 4	310	2,491	33 7	360	2,556	33 7	360	2,556	Colonies bleues			
1	Fontaine (réseau)	Bourneuf la forêt	1c	n	p 33 -1 3	33	1,519		33 3	33	1,519	33 3	33	1,519	33 3	33	1,519	60'	6	p 34 -1 4	35	1,544	34 4	35	1,544	38 10	44	1,643	38 10	44	1,643	Très petites colonies majoritairement incolores			
2	Réseau	EPHAD Nantes	1c	n	p 126 -1 16	130	2,114		126 16	130	2,114	109 8	110	2,041	109 8	110	2,041	60'	6	p 134 -1 14	130	2,114	134 14	130	2,114	99 9	98	1,991	99 9	98	1,991	Colonies bleues avec centre noir + colonies incolores			
3	Fontaine	EPHAD Nantes	1c	n	-4 92 -5 11	940 000	5,973		92 11	940 000	5,973	97 12	990 000	5,996	97 12	990 000	5,996	40'	6	-4 78 -5 7	770 000	5,886	78 7	770 000	5,886	95 17	1 000 000	6,000	95 17	1 000 000	6,000	Colonies bleues			
4	Fontaine	EPHAD Nantes	1c	n	-1 198 -2 27	2 000	3,301		198 27	2 000	3,301	212 28	2 200	3,342	212 28	2 200	3,342	20'	6	-1 252 -2 22	2 500	3,398	252 22	2 500	3,398	228 27	2 300	3,362	228 27	2 300	3,362	Colonies bleues + colonies incolores			
5	Réseau	Aviré	1c	n	-1 43 -2 4	430	2,633		43 4	430	2,633	52 9	550	2,740	52 9	550	2,740	50'	6	-1 0 -2 0	<1	/	33 4	340	2,531	0 0	<1	/	40 3	390	2,591	64h: pas de colonies visibles 72h: colonies plus grosses			
6	Réseau	Lion d'Angers	1c	n	-2 >300 -3 68	68 000	4,833		>300 68	68 000	4,833	>300 59	59 000	4,771	>300 59	59 000	4,771	40'	6	-2 >300 -3 38	38 000	4,580	>300 38	38 000	4,580	>300 40	40 000	4,602	>300 40	40 000	4,602	Petites colonies bleues et incolores			
20	Réseau	Mésanger	1c	n	-1 49 -2 5	490	2,690		49 5	490	2,690	52 6	530	2,724	52 6	530	2,724	30'	12	-1 37 -2 10	430	2,633	37 10	430	2,633	33 4	310	2,491	33 4	310	2,491	Colonies bleues			
28	Réseau	Peuton	1c	n	-1 21 -2 2	210	2,322		21 2	210	2,322	22 0	200	2,301	22 0	200	2,301	50'	12	-1 20 -2 1	190	2,279	20 1	190	2,279	17 0	160	2,204	17 0	160	2,204	Colonies bleues + colonies incolores			

Incubation at 22°C

Relative accuracy - Total flora 22°C - 64h - Water for human consumption - log

Reference method (ISO 6222)					Alternative method (EasyDisc YEA®)				Différence		
Ech.	Rep. 1	Rep. 2	M	SD	Rep. 1	Rep. 2	M	SD		Est. v	Dév.
1	3,00	2,97	2,98	0,02	2,86	2,88	2,87	0,01	-0,11	3,02	-0,15
2	3,59	3,53	3,56	0,04	3,59	3,60	3,60	0,01	0,04	3,58	0,01
3	1,64	1,65	1,65	0,01	1,67	1,62	1,65	0,03	0,00	1,72	-0,08
4	2,91	2,95	2,93	0,03	2,87	2,92	2,89	0,04	-0,04	2,97	-0,08
5	3,62	3,32	3,47	0,21	3,66	3,41	3,54	0,18	0,07	3,50	0,04
6	5,75	5,72	5,74	0,02	5,72	5,73	5,73	0,01	-0,01	5,70	0,03
7	3,59	3,57	3,58	0,02	3,66	3,66	3,66	0,00	0,08	3,60	0,06
8	1,81	1,82	1,81	0,01	1,88	1,78	1,83	0,07	0,01	1,88	-0,06
9	3,00	2,93	2,97	0,04	3,00	3,00	3,00	0,00	0,03	3,00	0,00
10	4,08	4,04	4,06	0,03	3,92	4,00	3,96	0,06	-0,10	4,07	-0,11
11	3,68	3,71	3,69	0,02	3,58	3,61	3,60	0,02	-0,10	3,71	-0,12
12	2,59	2,59	2,59	0,00	2,61	2,67	2,64	0,04	0,05	2,64	0,00
13	2,76	2,72	2,74	0,03	2,76	2,76	2,76	0,00	0,01	2,79	-0,03
14	3,30	3,40	3,35	0,07	3,53	3,57	3,55	0,03	0,20	3,38	0,17
15	3,51	3,57	3,54	0,04	3,73	3,69	3,71	0,03	0,17	3,56	0,15
16	4,67	4,79	4,73	0,08	4,91	5,01	4,96	0,07	0,23	4,72	0,24
17	1,85	1,97	1,91	0,09	2,85	2,76	2,81	0,06	0,90	1,98	0,83
18	4,11	4,18	4,15	0,04	4,20	4,04	4,12	0,12	-0,02	4,15	-0,03
19	4,15	4,20	4,18	0,04	3,97	4,00	3,98	0,02	-0,19	4,18	-0,20
20	1,64	1,38	1,51	0,19	1,56	1,58	1,57	0,02	0,06	1,59	-0,02
21	2,56	2,53	2,54	0,02	2,49	2,56	2,52	0,05	-0,02	2,60	-0,07
22	1,52	1,52	1,52	0,00	1,54	1,64	1,59	0,07	0,08	1,60	0,00
23	2,11	2,04	2,08	0,05	2,11	1,99	2,05	0,09	-0,03	2,14	-0,09
24	5,97	6,00	5,98	0,02	5,89	6,00	5,94	0,08	-0,04	5,94	0,00
25	3,30	3,34	3,32	0,03	3,40	3,36	3,38	0,03	0,06	3,35	0,03
26	4,83	4,77	4,80	0,04	4,58	4,60	4,59	0,02	-0,21	4,79	-0,20
27	2,69	2,72	2,71	0,02	2,63	2,49	2,56	0,10	-0,14	2,75	-0,19
28	2,32	2,30	2,31	0,01	2,28	2,20	2,24	0,05	-0,07	2,37	-0,13

q= 28		Mx= 3,23	Mv= 3,26	0,03
n= 2		MEDx= 3,15	MEDv= 3,19	0,006
N=qn= 56		SDbx= 1,18	SDby= 1,15	Biais
		MEDwx = 0,03	MEDwy = 0,03	
		SDwx= 0,07	SDwy= 0,06	
		rob. SDwx= 0,04	rob. SDwy= 0,05	

Choix de la méthode
GMFR

R=

0,932

rob. R=

1,225

Sx=

1,169

Sy=

1,137

r=

0,986

b=

0,972

a=

0,122

Res. SEM=

0,197

Res. SD=

0,279

S(b)=

0,032

S(a)=

0,111

p(t;b=1)=

0,396

p(t;a=0)=

0,278

t(b)=

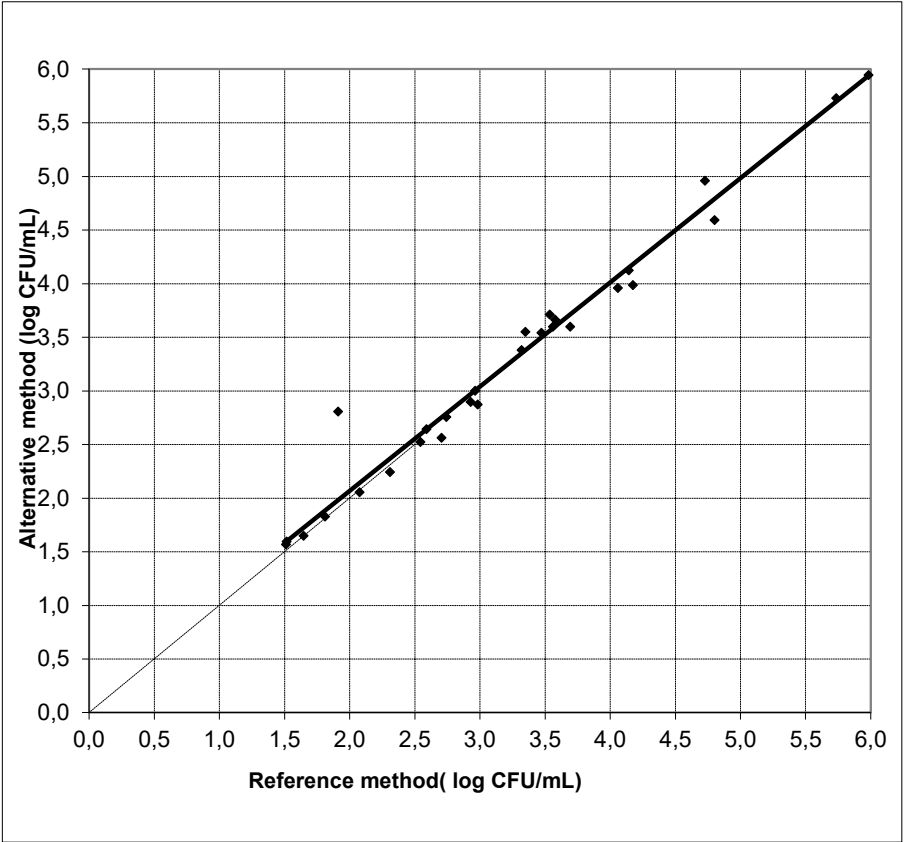
0,855

t(a)=

1,096

Répétabilité	MR	MA
r	0,182	0,170
rob. r	0,118	0,145

Les points représentés correspondent aux moyennes
des répétitions de chaque échantillon
Une courbe d'équation $y = x$ figure en pointillés



Incubation at 22°C

Relative accuracy - Total flora 22°C - 72h - Water for human consumption - log

Ech.	Reference method (ISO 6222)				Alternative method (EasyDisc YEA®)				Différence	Est. y	
	Rep. 1	Rep. 2	M	SD	Rep. 1	Rep. 2	M	SD		Est. y	Dév.
1	3,00	2,97	2,98	0,02	2,86	2,88	2,87	0,01	-0,11	3,02	-0,14
2	3,59	3,53	3,56	0,04	3,59	3,60	3,60	0,01	0,04	3,58	0,02
3	1,64	1,65	1,65	0,01	1,67	1,62	1,65	0,03	0,00	1,71	-0,07
4	2,91	2,95	2,93	0,03	2,87	2,92	2,89	0,04	-0,04	2,97	-0,07
5	3,62	3,32	3,47	0,21	3,66	3,41	3,54	0,18	0,07	3,49	0,05
6	5,75	5,72	5,74	0,02	5,72	5,73	5,73	0,01	-0,01	5,70	0,03
7	3,59	3,57	3,58	0,02	3,66	3,66	3,66	0,00	0,08	3,60	0,07
8	1,81	1,82	1,81	0,01	1,88	1,78	1,83	0,07	0,01	1,87	-0,05
9	3,00	2,93	2,97	0,04	3,00	3,00	3,00	0,00	0,03	3,00	0,00
10	4,08	4,04	4,06	0,03	3,92	4,00	3,96	0,06	-0,10	4,07	-0,11
11	3,68	3,71	3,69	0,02	3,58	3,61	3,60	0,02	-0,10	3,71	-0,11
12	2,59	2,59	2,59	0,00	2,61	2,67	2,64	0,04	0,05	2,63	0,01
13	2,76	2,72	2,74	0,03	2,76	2,76	2,76	0,00	0,01	2,78	-0,03
14	3,30	3,40	3,35	0,07	3,53	3,57	3,55	0,03	0,20	3,37	0,18
15	3,51	3,57	3,54	0,04	3,73	3,69	3,71	0,03	0,17	3,56	0,16
16	4,67	4,79	4,73	0,08	4,91	5,01	4,96	0,07	0,23	4,72	0,24
17	1,85	1,97	1,91	0,09	2,85	2,76	2,81	0,06	0,90	1,97	0,84
18	4,11	4,18	4,15	0,04	4,20	4,04	4,12	0,12	-0,02	4,15	-0,03
19	4,15	4,20	4,18	0,04	3,97	4,00	3,98	0,02	-0,19	4,18	-0,19
20	1,64	1,38	1,51	0,19	1,56	1,58	1,57	0,02	0,06	1,58	-0,01
21	2,56	2,53	2,54	0,02	2,49	2,56	2,52	0,05	-0,02	2,59	-0,06
22	1,52	1,52	1,52	0,00	1,54	1,64	1,59	0,07	0,08	1,59	0,01
23	2,11	2,04	2,08	0,05	2,11	1,99	2,05	0,09	-0,03	2,13	-0,08
24	5,97	6,00	5,98	0,02	5,89	6,00	5,94	0,08	-0,04	5,94	0,00
25	3,30	3,34	3,32	0,03	3,40	3,36	3,38	0,03	0,06	3,35	0,03
26	2,63	2,74	2,69	0,08	2,53	2,59	2,56	0,04	-0,13	2,73	-0,17
27	4,83	4,77	4,80	0,04	4,58	4,60	4,59	0,02	-0,21	4,79	-0,20
28	2,69	2,72	2,71	0,02	2,63	2,49	2,56	0,10	-0,14	2,75	-0,18
29	2,32	2,30	2,31	0,01	2,28	2,20	2,24	0,05	-0,07	2,36	-0,12

q= 29
n= 2
N=qn= 58

Mx= 3,21
MEDx= 2,98
SDbx= 1,16

MEDwx = 0,03
SDwx= 0,07
rob. SDwx= 0,04

My= 3,24
MEDy= 3,00
SDby= 1,13

MEDwy = 0,04
SDwy= 0,06
rob. SDwy= 0,05

0,03
 -0,001
Biais

Choix de la méthode
GMFR

R=0,918

rob. R=1,204

Sx=1,153

Sy=1,124

r=0,986

b=0,975

a=0,107

Res. SEM=0,196

Res. SD=0,278

S(b)=0,032

S(a)=0,110

p(t;b=1)=0,441

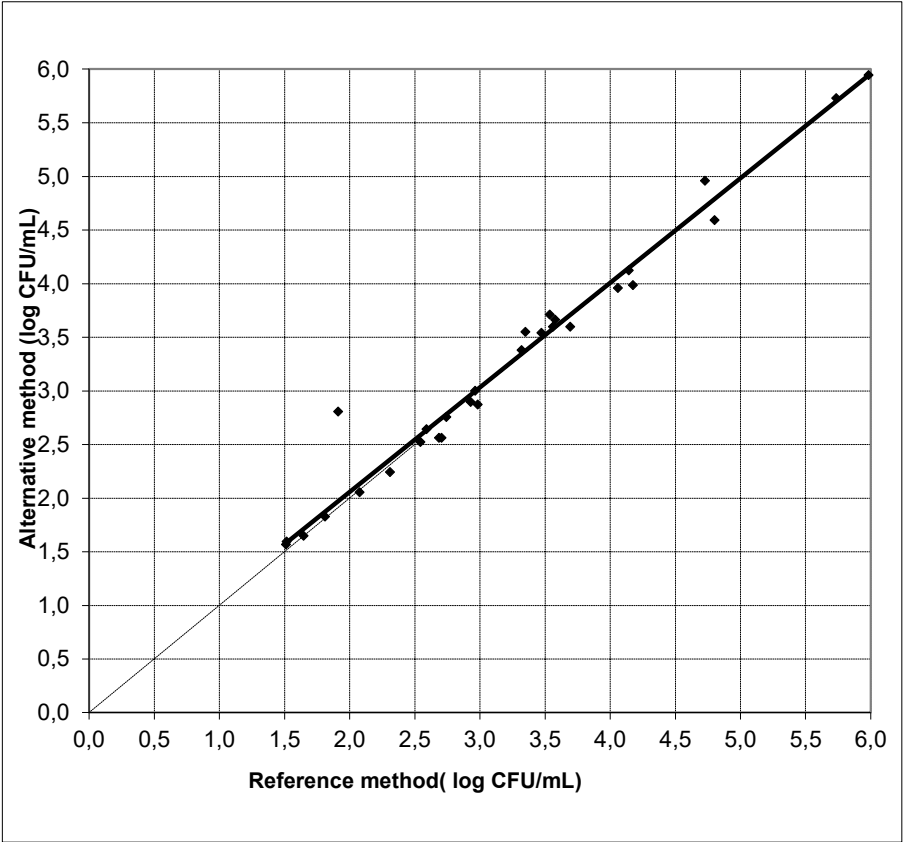
p(t;a=0)=0,333

t(b)=0,776

t(a)=0,977

Répétabilité	MR	MA
r	0,183	0,168
rob. r	0,122	0,146

Les points représentés correspondent aux moyennes des répétitions de chaque échantillon
Une courbe d'équation $y = x$ figure en pointillés



Code	Echantillon d'eau		Cat	CA	Dil.	NF EN ISO 6222:1999 (■)												Méthode EasyDisc YEA															
						Yeast extract agar												Colonies sur gélose EasyDisc															
						Réplicat 1 (40h)			Réplicat 1 (48h)			Réplicat 2 (40h)			Réplicat 2 (48h)			Délai avant incubation	Nombre boîtes emplies	Dil.	Réplicat 1 (40h)			Réplicat 1 (48h)			Réplicat 2 (40h)			Réplicat 2 (48h)			Aspect des colonies
						CFU	Result	Log	CFU	Result	Log	CFU	Result	Log	CFU	Result	Log				CFU	Result	Log	CFU	Result	Log	CFU	Result	Log	CFU	Result	Log	
9	Puits	Juvardeil	1a	n	p	107	110	2,041	114	120	2,079	92	96	1,982	102	110	2,041	60'	6	p	104	120	2,079	104	120	2,079	95	110	2,041	95	110	2,041	Colonies bleues + violacées
					-1	14			15			14			16					-1	28			28			24			24			
15	Puits	Peuton	1a	n	-2	33	3 360	3,526	33	3 360	3,526	38	3 820	3,582	38	3 820	3,582	60'	8	-2	34	3 200	3,505	34	3 200	3,505	35	3 820	3,582	35	3 820	3,582	Colonies bleues + rouges
					-3	4			4			4			4					-3	1			1			7			7			
16	Forage	Quelaines	1a	n	p	15	14	1,146	15	14	1,146	12	12	1,079	12	12	1,079	50'	8	p	17	15	1,176	17	15	1,176	19	17	1,230	19	17	1,230	Colonies bleues
					-1	0			0			1			1					-1	0			0			0			0			
17	Forage	Daumeray	1a	n	-1	53	550	2,740	55	570	2,756	48	490	2,690	51	520	2,716	20'	8	-1	44	490	2,690	47	520	2,716	35	420	2,623	39	455	2,658	Très petites colonies bleues
					-2	8			8			6			6					-2	10			10			11			11			
18	Puits	Les Loges	1a	n	-1	140	1 520	3,182	140	1 520	3,182	151	1 520	3,182	151	1 520	3,182	30'	8	-1	105	1 160	3,064	105	1 160	3,064	92	845	2,927	92	845	2,927	Colonies bleues
					-2	27			27			16			16					-2	23			23			1			1			
19	Puits	Les Ragunières	1a	n	-3	>300	330 000	5,519	>300	330 000	5,519	>300	340 000	5,531	>300	340 000	5,531	45'	12	-3	>300	400 000	5,602	>300	400 000	5,602	>300	360 000	5,556	>300	360 000	5,556	Colonies bleues
					-4	33			33			34			34					-4	40			40			36			36			
21	Puits	Ségré	1a	n	-1	53	570	2,756	53	570	2,756	50	570	2,756	50	570	2,756	60'	14	-1	60	660	2,820	60	660	2,820	60	900	2,954	60	900	2,954	Colonies bleues et blanches
					-2	10			10			13			13					-2	13			13			20			20			
27	Forage	Quelaines (Le Monceau)	1a	n	p	43	44	1,643	43	44	1,643	50	50	1,699	50	50	1,699	60'	12	p	45	47	1,672	45	47	1,672	47	49	1,690	47	49	1,690	Colonies bleues
					-1	5			5			5			5					-1	7			7			7			7			
31	Puits	Bressuire	1a	n	-1	41	410	2,613	41	410	2,613	47	460	2,663	47	460	2,663	50'	12	-1	35	330	2,519	35	330	2,519	50	480	2,681	50	480	2,681	Petites colonies bleues et incolores
					-2	1			1			4			4					-2	1			1			3			3			
32	Puits	Aviré	1a	n	-1	>300	18 000	4,255	>300	18 000	4,255	>300	17 000	4,230	>300	17 000	4,230	45'	12	-1	>300	8 400	3,924	>300	8 400	3,924	>300	7 800	3,892	>300	7 800	3,892	Petites colonies bleues et incolores
					-2	177			177			166			166					-2	84			84			78			78			
8	Source	Cristalline	1b	n	-1	43	440	2,643	43	440	2,643	32	340	2,531	32	340	2,531	37'	6	-1	0	<1 Pur: 165	2,217	38	390	2,591	0	<1 Pur: 160	2,204	36	370	2,568	40h: colonies incolores et quasi invisibles 48h: que des colonies incolores très difficiles à compter
					-2	5			5			5			5					-2	0			5			0			5			
22	Minérale	Hépar	1b	a	p	14	14	1,146	14	14	1,146	19	20	1,301	19	20	1,301	35'	14	p	20	20	1,301	20	20	1,301	22	22	1,342	22	22	1,342	Petites colonies bleues
					-1	2			2			2			2					-1	2			2			2			2			
23	Source	Montagnes Alpes	1b	a	p	27	26	1,415	27	26	1,415	34	32	1,505	34	32	1,505	25'	14	p	38	38	1,580	38	38	1,580	31	32	1,505	31	32	1,505	Colonies bleues et incolores
					-1	2			2			1			1					-1	4			4			4			4			
24	Source gazeuse	San Pellegrino	1b	a	-1	18	170	2,230	18	170	2,230	18	160	2,204	18	160	2,204	60'	12	-1	18	170	2,230	18	170	2,230	22	220	2,342	22	220	2,342	Petites colonies bleues et incolores
					-2	1			1			0			0					-2	1			1			2			2			
25	Minérale gazeuse	Marque U	1b	a	-1	28	300	2,477	28	300	2,477	25	240	2,380	25	240	2,380	55'	12	-1	34	330	2,519	34	330	2,519	38	360	2,556	38	360	2,556	Colonies bleues et blanches
					-2	5			5			1			1					-2	2			2			2			2			
26	Minérale gazeuse	St Yorre	1b	a	-2	26	2 400	3,380	26	2 400	3,380	35	3 400	3,531	35	3 400	3,531	40	12	-2	25	2 500	3,398	25	2 500	3,398	25	2 400	3,380	25	2 400	3,380	Colonies bleues
					-3	0			0			2			2					-3	3			3			1			1			
29	Minérale gazeuse	St Yorre	1b	a	-2	58	5 800	3,763	58	5 800	3,763	83	8 100	3,908	83	8 100	3,908	30'	8	-2	69	7 200	3,857	69	7 200	3,857	59	5 800	3,763	59	5 800	3,763	Colonies bleues
					-3	6			6			7			7					-3	10			10			5			5			
30	Minérale gazeuse	Montcalm	1b	a	-2	145	15 000	4,176	145	15 000	4,176	161	16 000	4,204	161	16 000	4,204	20'	8	-2	128	13 000	4,114	128	13 000	4,114	136	13 000	4,114	136	13 000	4,114	Colonies bleues
					-3	20			20			16			16					-3	17			17			11			11			
33	Source	St Alix	1b	a	-1	201	2 200	3,342	201	2 200	3,342	224	2 200	3,342	224	2 200	3,342	28'	4	-1	163	1 700	3,230	163	1 700	3,230	155	1 700	3,230	155	1 700	3,230	Colonies bleues
					-2	35			35			23			23					-2	21			21			26			26			
1	Fontaine (réseau)	Bourneuf la forêt	1c	n	p	33	33	1,519	33	33	1,519	30	32	1,505	30	32	1,505	60'	6	p	30	30	1,477	30	30	1,477	22	23	1,362	22	23	1,362	Très petites colonies majoritairement incolores
					-1	3			3			5			5					-1	3			3			3			3			
2	Réseau	EPHAD Nantes	1c	n	-1	57	570	2,756	59	590	2,771	58	580	2,763	61	610	2,785	60'	6	-1	60	600	2,778	60	600	2,778	52	530	2,724	52	530	2,724	Colonies bleues avec centre noir + colonies incolores
					-2	6			6			6			6					-2	6			6			6			6			
3	Fontaine	EPHAD Nantes	1c	n	-1	>300	14 000	4,146	>300	14 000	4,146	>300	15 000	4,176	>300	15 000	4,176	40'	6	-1	>300	17 000	4,230	>300	17 000	4,230	>300	10 000	4,000	>300	10 000	4,000	Colonies bleues avec centre noir + colonies incolores
					-2	137			142			148			157					-2	171			171			104			104			
4	Fontaine	EPHAD Nantes	1c	n	-1	155	1 700	3,230	155	1 700	3,230	206	2 000	3,301	206	2 000	3,301																

Relative accuracy - Total flora 36°C - 40h - Water for human consumption - log

Reference method (ISO 6222)					Alternative method (EasyDisc YEA®)				Différence	Est. y	
Ech.	Rep. 1	Rep. 2	M	SD	Rep. 1	Rep. 2	M	SD		Est. y	Dév.
1	2,04	1,98	2,01	0,04	2,08	2,04	2,06	0,03	0,05	2,01	0,05
2	3,53	3,58	3,55	0,04	3,51	3,58	3,54	0,05	-0,01	3,49	0,06
3	1,15	1,08	1,11	0,05	1,18	1,23	1,20	0,04	0,09	1,15	0,05
4	2,74	2,69	2,72	0,04	2,69	2,62	2,66	0,05	-0,06	2,68	-0,03
5	3,18	3,18	3,18	0,00	3,06	2,93	3,00	0,10	-0,19	3,13	-0,13
6	5,52	5,53	5,52	0,01	5,60	5,56	5,58	0,03	0,05	5,37	0,21
7	2,76	2,76	2,76	0,00	2,82	2,95	2,89	0,10	0,13	2,72	0,16
8	1,64	1,70	1,67	0,04	1,67	1,69	1,68	0,01	0,01	1,68	0,00
9	2,61	2,66	2,64	0,04	2,52	2,68	2,60	0,12	-0,04	2,61	-0,01
10	4,26	4,23	4,24	0,02	3,92	3,89	3,91	0,02	-0,33	4,15	-0,24
11	1,15	1,30	1,22	0,11	1,30	1,34	1,32	0,03	0,10	1,26	0,07
12	1,41	1,51	1,46	0,06	1,58	1,51	1,54	0,05	0,08	1,48	0,06
13	2,23	2,20	2,22	0,02	2,23	2,34	2,29	0,08	0,07	2,21	0,08
14	2,48	2,38	2,43	0,07	2,52	2,56	2,54	0,03	0,11	2,41	0,13
15	3,38	3,53	3,46	0,11	3,40	3,38	3,39	0,01	-0,07	3,39	0,00
16	3,76	3,91	3,84	0,10	3,86	3,76	3,81	0,07	-0,03	3,76	0,05
17	4,18	4,20	4,19	0,02	4,11	4,11	4,11	0,00	-0,08	4,09	0,02
18	3,34	3,34	3,34	0,00	3,23	3,23	3,23	0,00	-0,11	3,28	-0,05
19	1,52	1,51	1,51	0,01	1,48	1,36	1,42	0,08	-0,09	1,53	-0,11
20	2,76	2,76	2,76	0,01	2,78	2,72	2,75	0,04	-0,01	2,73	0,03
21	4,15	4,18	4,16	0,02	4,23	4,00	4,12	0,16	-0,05	4,07	0,05
22	3,23	3,30	3,27	0,05	2,97	2,96	2,96	0,01	-0,30	3,21	-0,25
23	1,90	1,90	1,90	0,00	1,85	1,83	1,84	0,01	-0,07	1,91	-0,07
24	4,92	4,98	4,95	0,04	4,69	4,76	4,72	0,05	-0,23	4,82	-0,10
25	2,38	2,59	2,49	0,15	2,38	2,62	2,50	0,17	0,02	2,46	0,04
26	1,92	1,96	1,94	0,02	1,88	1,91	1,89	0,02	-0,05	1,94	-0,05

q= 26

n= 2

N=qn= 52

Mx= 2,87

MEDx= 2,74

SDbx= 1,16

MEDwx= 0,04

SDwx= 0,06

rob. SDwx= 0,05

My= 2,83

MEDy= 2,70

SDby= 1,10

MEDwy= 0,04

SDwy= 0,07

rob. SDwy= 0,06

-0,04

-0,032

Biais

Choix de la méthode
GMFR

R=1,230

rob. R=1,081

Sx=1,145

Sy=1,095

r= 0,995

b= 0,957

a= 0,086

Res. SEM= 0,109

Res. SD= 0,154

S(b)= 0,019

S(a)= 0,059

p(t;b=1)= 0,028

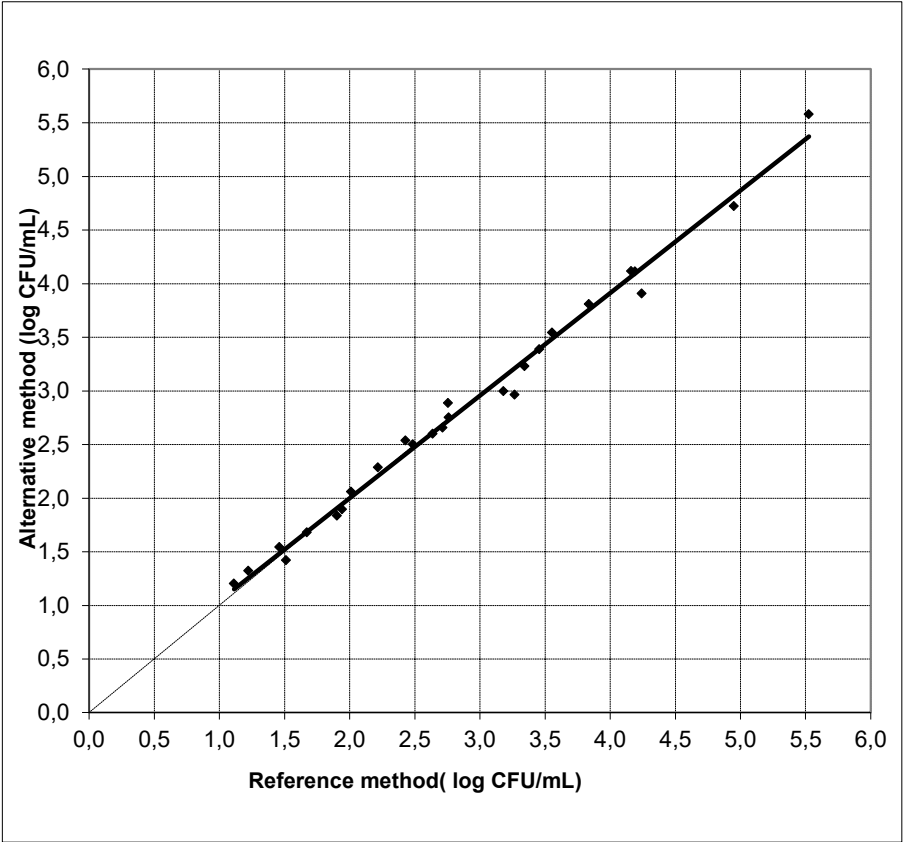
p(t;a=0)= 0,149

t(b)= 2,270

t(a)= 1,464

Répétabilité	MR	MA
r	0,157	0,193
rob. r	0,147	0,159

Les points représentés correspondent aux moyennes
des répétitions de chaque échantillon
Une courbe d'équation $y = x$ figure en pointillés



Relative accuracy - Total flora 36°C - 48h - Water for human consumption - log

Reference method (ISO 6222)					Alternative method (EasyDisc YEA®)				Différence	Est. y	
Ech.	Rep. 1	Rep. 2	M	SD	Rep. 1	Rep. 2	M	SD		Dév.	
1	2,08	2,08	2,08	0,00	2,08	2,04	2,06	0,03	-0,02	2,09	-0,02
2	3,53	3,51	3,52	0,01	3,51	3,58	3,54	0,05	0,03	3,49	0,05
3	1,15	1,18	1,16	0,02	1,18	1,23	1,20	0,04	0,04	1,19	0,02
4	2,76	2,72	2,74	0,03	2,72	2,66	2,69	0,04	-0,05	2,73	-0,04
5	3,18	3,06	3,12	0,08	3,06	2,93	3,00	0,10	-0,13	3,11	-0,11
6	5,52	5,60	5,56	0,06	5,60	5,56	5,58	0,03	0,02	5,49	0,09
7	2,76	2,82	2,79	0,05	2,82	2,95	2,89	0,10	0,10	2,78	0,11
8	1,64	1,67	1,66	0,02	1,67	1,69	1,68	0,01	0,02	1,67	0,01
9	2,61	2,52	2,57	0,07	2,52	2,68	2,60	0,12	0,03	2,56	0,04
10	4,26	3,92	4,09	0,23	3,92	3,89	3,91	0,02	-0,18	4,05	-0,14
11	2,64	2,59	2,62	0,04	2,59	2,57	2,58	0,02	-0,04	2,61	-0,03
12	1,15	1,30	1,22	0,11	1,30	1,34	1,32	0,03	0,10	1,25	0,07
13	1,41	1,58	1,50	0,12	1,58	1,51	1,54	0,05	0,05	1,52	0,03
14	2,23	2,23	2,23	0,00	2,23	2,34	2,29	0,08	0,06	2,23	0,05
15	2,48	2,52	2,50	0,03	2,52	2,56	2,54	0,03	0,04	2,49	0,04
16	3,38	3,40	3,39	0,01	3,40	3,38	3,39	0,01	0,00	3,37	0,02
17	3,76	3,86	3,81	0,07	3,86	3,76	3,81	0,07	0,00	3,78	0,03
18	4,18	4,11	4,15	0,04	4,11	4,11	4,11	0,00	-0,03	4,11	0,01
19	3,34	3,23	3,29	0,08	3,23	3,23	3,23	0,00	-0,06	3,27	-0,04
20	1,52	1,48	1,50	0,03	1,48	1,36	1,42	0,08	-0,08	1,52	-0,10
21	2,77	2,78	2,77	0,01	2,78	2,72	2,75	0,04	-0,02	2,77	-0,01
22	4,15	4,23	4,19	0,06	4,23	4,00	4,12	0,16	-0,07	4,15	-0,03
23	3,23	2,97	3,10	0,19	2,97	2,96	2,96	0,01	-0,14	3,08	-0,12
24	1,95	1,90	1,93	0,04	1,90	1,90	1,90	0,00	-0,03	1,94	-0,03
25	4,92	4,75	4,83	0,12	4,75	4,84	4,79	0,06	-0,04	4,78	0,01
26	2,38	2,38	2,38	0,00	2,38	2,62	2,50	0,17	0,12	2,38	0,12
27	1,92	1,88	1,90	0,03	1,88	1,91	1,89	0,02	-0,01	1,91	-0,02
Mx= 2,84					My= 2,83				-0,01		
MEDx= 2,74					MEDy= 2,69				-0,008		
SDbx= 1,11					SDby= 1,09				Biais		
MEDwx = 0,04					MEDwy = 0,04						
SDwx= 0,08					SDwy= 0,07						
rob. SDwx= 0,05					rob. SDwy= 0,06						
q= 27											
n= 2											
N=qn= 54											

Choix de la méthode
GMFR

R=0,857

rob. R=1,028

Sx=1,102

Sy=1,078

r=0,998

b=0,978

a=0,051

Res. SEM=0,068

Res. SD=0,096

S(b)=0,012

S(a)=0,037

p(t;b=1)=0,080

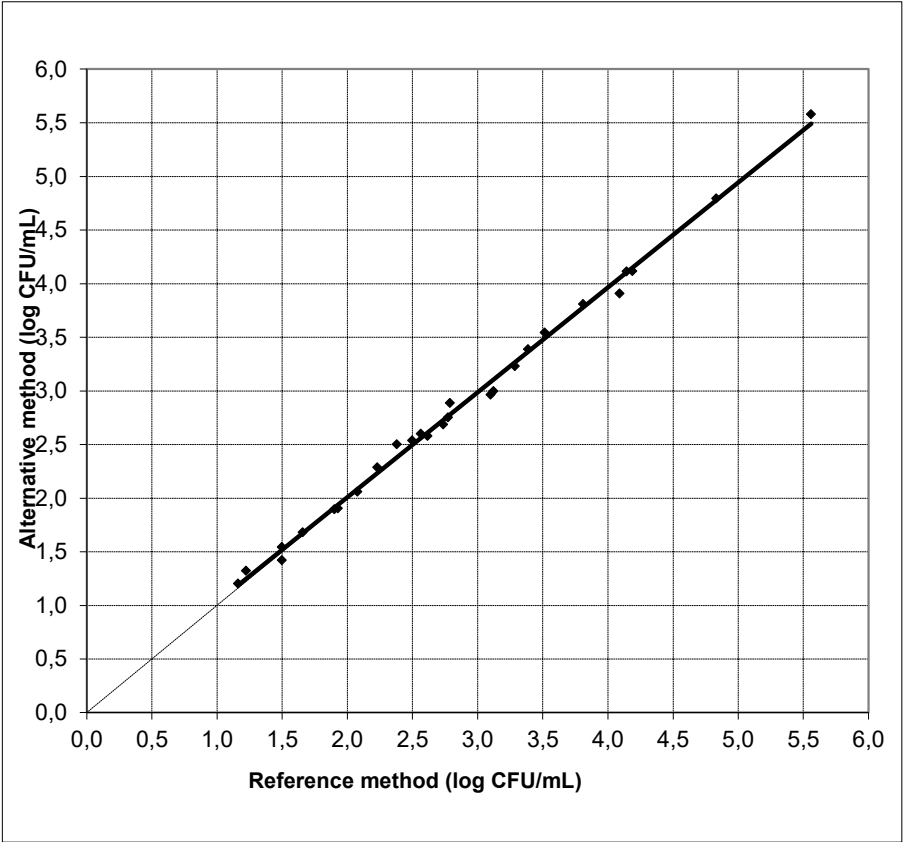
p(t;a=0)=0,171

t(b)=1,786

t(a)=1,387

Répétabilité	MR	MA
r	0,222	0,190
rob. r	0,154	0,158

Les points représentés correspondent aux moyennes des répétitions de chaque échantillon
Une courbe d'équation $y = x$ figure en pointillés



APPENDIX E

LOD-LOQ

Raw results & statistical calculations

Detection limit (LOD) and Quantification limit (LOQ)

Strain : *Escherichia coli* DNC046 (36°C) - Sterile tap water

Target level (CFU/mL)	Real level (CFU/mL) (a)	Repetition					
		1	2	3	4	5	6
		<i>E. coli</i> (CFU/mL)	<i>E. coli</i> (CFU/mL)	<i>E. coli</i> (CFU/mL)	<i>E. coli</i> (CFU/mL)	<i>E. coli</i> (CFU/mL)	<i>E. coli</i> (CFU/mL)
0,0	0	0	0	0	0	0	0
0,5	0,40	0	0	0	0	1	1
0,6	0,66	0	1	1	2	0	0
0,8	0,83	1	0	1	1	1	1
1,0	1,07	2	2	1	0	1	1
1,5	1,73	1	2	0	3	2	0
2,0	1,83	5	2	2	2	0	1
2,5	2,83	3	3	0	2	1	2
3,0	3,33	4	1	4	2	1	2

Strain: *Bacillus pumilus* MZK783 (22°C) - Sterile bottle water

Target level (CFU/mL)	Real level (CFU/mL) (a)	Repetition					
		1	2	3	4	5	6
		<i>B. pumilus</i> (CFU/mL)	<i>B. pumilus</i> (CFU/mL)	<i>B. pumilus</i> (CFU/mL)	<i>B. pumilus</i> (CFU/mL)	<i>B. pumilus</i> (CFU/mL)	<i>B. pumilus</i> (CFU/mL)
0,0	0	0	0	0	0	0	0
0,5	0,47	0	1	0	0	0	0
0,6	0,63	1	1	0	1	0	0
0,8	0,76	1	1	1	2	0	0
1,0	0,73	2	1	2	1	0	1
1,5	1,27	2	0	1	1	2	2
2,0	2,20	3	3	0	3	1	2
2,5	2,50	3	1	5	2	2	3
3,0	3,90	4	4	5	5	4	5

(a): level calculated from 30 enumerations

APPENDIX F

Raw results of the interlaboratory study

 VALIDATION & EXPERTISE			Interlaboratory study for the certification NF Validation of the EasyDisc YEA method									
			Results									
			Laboratory A									
Méthode	ISO 6222											
Code flacon	22°C			36°C			22°C			36°C		
lettre +n°	Dilutions	Nombre d'UFC	Résultat	Dilutions	Nombre d'UFC	Résultat	Dilutions	Nombre d'UFC	Résultat	Dilutions	Nombre d'UFC	Résultat
A1	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
A2	pur	>300	540	pur	>300	650	pur	>300	720	pur	>300	580
	1/10ème	56		1/10ème	67		1/10ème	75		1/10ème	58	
	1/100ème	3		1/100ème	5		1/100ème	4		1/100ème	6	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
A3	pur	123	120	pur	118	120	pur	120	120	pur	108	110
	1/10ème	14		1/10ème	15		1/10ème	11		1/10ème	13	
	1/100ème	0		1/100ème	0		1/100ème	4		1/100ème	1	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
A4	pur	>300	550	pur	>300	630	pur	>300	630	pur	>300	530
	1/10ème	56		1/10ème	62		1/10ème	66		1/10ème	53	
	1/100ème	5		1/100ème	7		1/100ème	3		1/100ème	5	
	1/1000ème	0		1/1000ème	1		1/1000ème	0		1/1000ème	0	
A5	pur	>300	2800	pur	>300	2600	pur	>300	2500	pur	>300	2400
	1/10ème	>300		1/10ème	>300		1/10ème	240		1/10ème	230	
	1/100ème	27		1/100ème	27		1/100ème	34		1/100ème	37	
	1/1000ème	4		1/1000ème	2		1/1000ème	7		1/1000ème	2	
A6	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
A7	pur	>300	3800	pur	>300	3000	pur	>300	2100	pur	>300	2100
	1/10ème	>300		1/10ème	298		1/10ème	192		1/10ème	208	
	1/100ème	41		1/100ème	27		1/100ème	36		1/100ème	27	
	1/1000ème	1		1/1000ème	1		1/1000ème	4		1/1000ème	2	
A8	pur	135	140	pur	118	120	pur	104	100	pur	110	110
	1/10ème	15		1/10ème	13		1/10ème	9		1/10ème	13	
	1/100ème	2		1/100ème	3		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
Incubation time for ISO dishes and EasyDisc YEA at 22°C: 64h												
Incubation time for ISO dishes and EasyDisc YEA at 36°C: 46h20												

 VALIDATION & EXPERTISE			Interlaboratory study for the certification NF Validation of the EasyDisc YEA method									
			Results									
			Laboratory B									
Method	ISO 6222						EasyDisc YEA					
Bottle code	22°C			36°C			22°C			36°C		
letter +n°	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result
B1	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
B2	pur	>300	410	pur	>300	460	pur	>300	480	pur	>300	440
	1/10ème	40		1/10ème	43		1/10ème	50		1/10ème	42	
	1/100ème	5		1/100ème	8		1/100ème	3		1/100ème	6	
	1/1000ème	0		1/1000ème	0		1/1000ème	2		1/1000ème	1	
B3	pur	97	100	pur	90	90	pur	86	90	pur	99	100
	1/10ème	14		1/10ème	12		1/10ème	10		1/10ème	8	
	1/100ème	1		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
B4	pur	>300	440	pur	>300	590	pur	>300	530	pur	>300	500
	1/10ème	47		1/10ème	59		1/10ème	54		1/10ème	52	
	1/100ème	2		1/100ème	6		1/100ème	4		1/100ème	3	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
B5	pur	>300	3000	pur	>300	2300	pur	>300	2200	pur	>300	2200
	1/10ème	280		1/10ème	228		1/10ème	209		1/10ème	218	
	1/100ème	30		1/100ème	30		1/100ème	30		1/100ème	20	
	1/1000ème	6		1/1000ème	2		1/1000ème	1		1/1000ème	5	
B6	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
B7	pur	>300	2700	pur	>300	2300	pur	>300	3000	pur	>300	2300
	1/10ème	272		1/10ème	236		1/10ème	300		1/10ème	220	
	1/100ème	27		1/100ème	19		1/100ème	30		1/100ème	30	
	1/1000ème	0		1/1000ème	4		1/1000ème	3		1/1000ème	2	
B8	pur	112	110	pur	96	100	pur	77	80	pur	96	99
	1/10ème	7		1/10ème	10		1/10ème	11		1/10ème	13	
	1/100ème	1		1/100ème	1		1/100ème	0		1/100ème	1	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
Incubation time for ISO dishes and EasyDisc YEA at 22°C: 64h												
Incubation time for ISO dishes and EasyDisc YEA at 36°C: 40h												

 VALIDATION & EXPERTISE			Interlaboratory study for the certification NF Validation of the EasyDisc YEA method									
			Results									
			Laboratory C									
Method	ISO 6222						EasyDisc YEA					
Bottle code	22°C			36°C			22°C			36°C		
letter +n°	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result
C1	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
C2	pur	>300	620	pur	>300	450	pur	>300	750	pur	>300	470
	1/10ème	64		1/10ème	47		1/10ème	70		1/10ème	48	
	1/100ème	4		1/100ème	3		1/100ème	12		1/100ème	4	
	1/1000ème	1		1/1000ème	0		1/1000ème	1		1/1000ème	0	
C3	pur	65	70	pur	112	110	pur	96	100	pur	139	130
	1/10ème	10		1/10ème	11		1/10ème	17		1/10ème	6	
	1/100ème	3		1/100ème	1		1/100ème	1		1/100ème	1	
	1/1000ème	0		1/1000ème	0		1/1000ème	1		1/1000ème	0	
C4	pur	>300	600	pur	>300	550	pur	>300	480	pur	>300	360
	1/10ème	59		1/10ème	57		1/10ème	49		1/10ème	37	
	1/100ème	7		1/100ème	4		1/100ème	5		1/100ème	3	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	1	
C5	pur	>300	3000	pur	>300	2750	pur	>300	2700	pur	>300	2700
	1/10ème	312		1/10ème	266		1/10ème	264		1/10ème	269	
	1/100ème	18		1/100ème	36		1/100ème	32		1/100ème	29	
	1/1000ème	1		1/1000ème	1		1/1000ème	8		1/1000ème	1	
C6	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
C7	pur	>300	3030	pur	>300	2600	pur	>300	2850	pur	>300	3760
	1/10ème	301		1/10ème	253		1/10ème	281		1/10ème	380	
	1/100ème	32		1/100ème	32		1/100ème	32		1/100ème	34	
	1/1000ème	3		1/1000ème	2		1/1000ème	2		1/1000ème	5	
C8	pur	97	100	pur	94	95	pur	110	110	pur	109	110
	1/10ème	13		1/10ème	11		1/10ème	13		1/10ème	13	
	1/100ème	1		1/100ème	1		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
Incubation time for ISO dishes and EasyDisc YEA at 22°C: 65h												
Incubation time for ISO dishes and EasyDisc YEA at 36°C: 48h												

 VALIDATION & EXPERTISE			Interlaboratory study for the certification NF Validation of the EasyDisc YEA method									
			Results									
			Laboratory D									
Method	ISO 6222						EasyDisc YEA					
Bottle code	22°C			36°C			22°C			36°C		
letter +n°	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result
D1	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
D2	pur	>300	630	pur	>300	455	pur	>300	680	pur	>300	645
	1/10ème	62		1/10ème	43		1/10ème	67		1/10ème	64	
	1/100ème	7		1/100ème	7		1/100ème	8		1/100ème	7	
	1/1000ème	0		1/1000ème	1		1/1000ème	2		1/1000ème	1	
D3	pur	108	110	pur	128	130	pur	103	110	pur	131	130
	1/10ème	9		1/10ème	11		1/10ème	13		1/10ème	10	
	1/100ème	1		1/100ème	1		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
D4	pur	>300	550	pur	>300	600	pur	>300	545	pur	>300	620
	1/10ème	55		1/10ème	61		1/10ème	93		1/10ème	61	
	1/100ème	4		1/100ème	5		1/100ème	7		1/100ème	7	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	2	
D5	pur	>300	4100	pur	>300	3500	pur	>300	3500	pur	>300	2800
	1/10ème	>300		1/10ème	>300		1/10ème	>300		1/10ème	>300	
	1/100ème	41		1/100ème	35		1/100ème	35		1/100ème	28	
	1/1000ème	4		1/1000ème	2		1/1000ème	2		1/1000ème	4	
D6	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
D7	pur	>300	3300	pur	>300	3300	pur	>300	3500	pur	>300	3500
	1/10ème	>300		1/10ème	>300		1/10ème	>300		1/10ème	>300	
	1/100ème	33		1/100ème	33		1/100ème	35		1/100ème	35	
	1/1000ème	2		1/1000ème	3		1/1000ème	1		1/1000ème	4	
D8	pur	127	125	pur	124	130	pur	115	120	pur	137	130
	1/10ème	10		1/10ème	17		1/10ème	14		1/10ème	12	
	1/100ème	2		1/100ème	1		1/100ème	0		1/100ème	1	
	1/1000ème	0		1/1000ème	0		1/1000ème	1		1/1000ème	0	
Incubation time for ISO dishes and EasyDisc YEA at 22°C: 67h												
Incubation time for ISO dishes and EasyDisc YEA at 36°C: 43h												

 VALIDATION & EXPERTISE			Interlaboratory study for the certification NF Validation of the EasyDisc YEA method									
			Results									
			Laboratory E									
Method	ISO 6222											
Bottle code	22°C			36°C			22°C			36°C		
letter +n°	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result
E1	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
E2	pur	>300	580	pur	>300	550	pur	>300	540	pur	>300	550
	1/10ème	58		1/10ème	56		1/10ème	52		1/10ème	52	
	1/100ème	6		1/100ème	4		1/100ème	7		1/100ème	9	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	1	
E3	pur	103	110	pur	107	110	pur	112	110	pur	116	120
	1/10ème	12		1/10ème	11		1/10ème	10		1/10ème	14	
	1/100ème	3		1/100ème	0		1/100ème	0		1/100ème	1	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
E4	pur	>300	590	pur	>300	550	pur	>300	660	pur	>300	620
	1/10ème	57		1/10ème	48		1/10ème	64		1/10ème	63	
	1/100ème	8		1/100ème	12		1/100ème	9		1/100ème	5	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
E5	pur	>300	2700	pur	>300	3900	pur	>300	2900	pur	>300	2900
	1/10ème	271		1/10ème	>300		1/10ème	280		1/10ème	281	
	1/100ème	30		1/100ème	40		1/100ème	33		1/100ème	40	
	1/1000ème	5		1/1000ème	3		1/1000ème	7		1/1000ème	0	
E6	pur	1	1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
E7	pur	>300	3000	pur	>300	3100	pur	>300	2900	pur	>300	2700
	1/10ème	295		1/10ème	290		1/10ème	283		1/10ème	>300	
	1/100ème	34		1/100ème	45		1/100ème	35		1/100ème	28	
	1/1000ème	4		1/1000ème	1		1/1000ème	2		1/1000ème	2	
E8	pur	122	130	pur	134	140	pur	110	120	pur	48	55
	1/10ème	16		1/10ème	22		1/10ème	17		1/10ème	13	
	1/100ème	1		1/100ème	0		1/100ème	0		1/100ème	2	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	1	
Incubation time for ISO dishes and EasyDisc YEA at 22°C: 68h												
Incubation time for ISO dishes and EasyDisc YEA at 36°C: 41h												

 VALIDATION & EXPERTISE			Interlaboratory study for the certification NF Validation of the EasyDisc YEA method									
			Results									
			Laboratory F									
Method	ISO 6222						EasyDisc YEA					
Bottle code	22°C			36°C			22°C			36°C		
letter +n°	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result
F1	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0				
	1/100ème	0		1/100ème	0		1/100ème	0				
	1/1000ème	0		1/1000ème	0		1/1000ème	0				
F2	pur	>300	500	pur	>300	470	pur	>300	580	pur	>300	470
	1/10ème	50		1/10ème	46		1/10ème	57		1/10ème	47	
	1/100ème	5		1/100ème	6		1/100ème	7		1/100ème	5	
	1/1000ème	0		1/1000ème	1		1/1000ème	2		1/1000ème	1	
F3	pur	98	100	pur	95	95	pur	113	110	pur	107	110
	1/10ème	10		1/10ème	10		1/10ème	8		1/10ème	15	
	1/100ème	1		1/100ème	2		1/100ème	1		1/100ème	1	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
F4	pur	>300	470	pur	>300	440	pur	>300	730	pur	>300	550
	1/10ème	48		1/10ème	44		1/10ème	72		1/10ème	51	
	1/100ème	4		1/100ème	4		1/100ème	8		1/100ème	10	
	1/1000ème	1		1/1000ème	1		1/1000ème	1		1/1000ème	2	
F5	pur	>300	3000	pur	>300	3560	pur	>300	2800	pur	>300	3000
	1/10ème	297		1/10ème	>300		1/10ème	275		1/10ème	296	
	1/100ème	29		1/100ème	35		1/100ème	27		1/100ème	34	
	1/1000ème	4		1/1000ème	4		1/1000ème	2		1/1000ème	1	
F6	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
F7	pur	>300	3200	pur	>300	2800	pur	>300	2900	pur	>300	2300
	1/10ème	>300		1/10ème	270		1/10ème	299		1/10ème	222	
	1/100ème	31		1/100ème	37		1/100ème	23		1/100ème	33	
	1/1000ème	4		1/1000ème	4		1/1000ème	4		1/1000ème	4	
F8	pur	132	140	pur	108	110	pur	102	100	pur	99	110
	1/10ème	17		1/10ème	9		1/10ème	11		1/10ème	17	
	1/100ème	1		1/100ème	1		1/100ème	1		1/100ème	1	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
Incubation time for ISO dishes and EasyDisc YEA at 22°C: 71h												
Incubation time for ISO dishes and EasyDisc YEA at 36°C: 44h												

 VALIDATION & EXPERTISE			Interlaboratory study for the certification NF Validation of the EasyDisc YEA method									
			Results									
			Laboratory G									
Méthode	ISO 6222					EasyDisc YEA						
Code flacon	22°C			36°C			22°C			36°C		
lettre +n°	Dilutions	Nombre d'UFC	Résultat	Dilutions	Nombre d'UFC	Résultat	Dilutions	Nombre d'UFC	Résultat	Dilutions	Nombre d'UFC	Résultat
G1	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
G2	pur	>300	460	pur	>300	360	pur	>300	640	pur	>300	600
	1/10ème	48		1/10ème	37		1/10ème	63		1/10ème	58	
	1/100ème	3		1/100ème	3		1/100ème	7		1/100ème	8	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
G3	pur	114	110	pur	105	110	pur	109	110	pur	110	110
	1/10ème	11		1/10ème	13		1/10ème	14		1/10ème	10	
	1/100ème	0		1/100ème	1		1/100ème	1		1/100ème	1	
	1/1000ème	0		1/1000ème	1		1/1000ème	0		1/1000ème	0	
G4	pur	>300	410	pur	>300	530	pur	>300	510	pur	>300	480
	1/10ème	41		1/10ème	57		1/10ème	52		1/10ème	46	
	1/100ème	4		1/100ème	1		1/100ème	4		1/100ème	7	
	1/1000ème	0		1/1000ème	1		1/1000ème	2		1/1000ème	0	
G5	pur	>300	3500	pur	>300	2800	pur	>300	3500	pur	>300	2800
	1/10ème	>300		1/10ème	271		1/10ème	>300		1/10ème	>300	
	1/100ème	37		1/100ème	40		1/100ème	36		1/100ème	27	
	1/1000ème	1		1/1000ème	5		1/1000ème	2		1/1000ème	4	
G6	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
G7	pur	>300	2900	pur	>300	3100	pur	>300	2500	pur	>300	3100
	1/10ème	290		1/10ème	298		1/10ème	>300		1/10ème	>300	
	1/100ème	25		1/100ème	39		1/100ème	26		1/100ème	31	
	1/1000ème	2		1/1000ème	4		1/1000ème	1		1/1000ème	3	
G8	pur	117	120	pur	109	110	pur	103	100	pur	97	100
	1/10ème	10		1/10ème	11		1/10ème	8		1/10ème	13	
	1/100ème	2		1/100ème	1		1/100ème	1		1/100ème	1	
	1/1000ème	0		1/1000ème	0		1/1000ème	1		1/1000ème	0	
Incubation time for ISO dishes and EasyDisc YEA at 22°C: 66h50												
Incubation time for ISO dishes and EasyDisc YEA at 36°C: 41h30												

 VALIDATION & EXPERTISE			Interlaboratory study for the certification NF Validation of the EasyDisc YEA method									
			Results									
			Laboratory H									
Method	ISO 6222						EasyDisc YEA					
Bottle code	22°C			36°C			22°C			36°C		
letter +n°	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result
H1	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
H2	pur	>300	610	pur	>300	570	pur	>300	540	pur	>300	590
	1/10ème	61		1/10ème	57		1/10ème	54		1/10ème	59	
	1/100ème	10		1/100ème	8		1/100ème	9		1/100ème	9	
	1/1000ème	0		1/1000ème	0		1/1000ème	1		1/1000ème	0	
H3	pur	118	120	pur	132	130	pur	118	120	pur	120	120
	1/10ème	9		1/10ème	12		1/10ème	9		1/10ème	13	
	1/100ème	2		1/100ème	2		1/100ème	1		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
H4	pur	>300	610	pur	>300	530	pur	>300	490	pur	>300	540
	1/10ème	61		1/10ème	53		1/10ème	49		1/10ème	54	
	1/100ème	2		1/100ème	2		1/100ème	4		1/100ème	5	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
H5	pur	>300	2800	pur	>300	2500	pur	>300	4400	pur	>300	4800
	1/10ème	>300		1/10ème	272		1/10ème	295		1/10ème	233	
	1/100ème	28		1/100ème	25		1/100ème	44		1/100ème	48	
	1/1000ème	6		1/1000ème	6		1/1000ème	3		1/1000ème	0	
H6	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
H7	pur	>300	2000	pur	>300	4200	pur	>300	4000	pur	>300	3000
	1/10ème	265		1/10ème	>303		1/10ème	285		1/10ème	271	
	1/100ème	20		1/100ème	42		1/100ème	40		1/100ème	30	
	1/1000ème	3		1/1000ème	1		1/1000ème	6		1/1000ème	1	
H8	pur	105	105	pur	103	100	pur	119	120	pur	128	130
	1/10ème	7		1/10ème	9		1/10ème	15		1/10ème	12	
	1/100ème	1		1/100ème	2		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
Incubation time for ISO dishes and EasyDisc YEA at 22°C: 64h												
Incubation time for ISO dishes and EasyDisc YEA at 36°C: 41h												

 VALIDATION & EXPERTISE			Interlaboratory study for the certification NF Validation of the EasyDisc YEA method									
			Results									
			Laboratory I									
Method	ISO 6222											
Bottle code	22°C			36°C			22°C			36°C		
letter +n°	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result
I1	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
I2	pur	>300	640	pur	>300	670	pur	>300	730	pur	>300	480
	1/10ème	66		1/10ème	64		1/10ème	73		1/10ème	51	
	1/100ème	4		1/100ème	10		1/100ème	7		1/100ème	2	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	1	
I3	pur	113	110	pur	121	130	pur	107	110	pur	92	100
	1/10ème	13		1/10ème	18		1/10ème	11		1/10ème	15	
	1/100ème	1		1/100ème	1		1/100ème	4		1/100ème	1	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
I4	pur	>300	450	pur	>300	420	pur	>300	540	pur	>300	290
	1/10ème	44		1/10ème	43		1/10ème	53		1/10ème	29	
	1/100ème	6		1/100ème	3		1/100ème	6		1/100ème	3	
	1/1000ème	0		1/1000ème	2		1/1000ème	0		1/1000ème	0	
I5	pur	>300	3000	pur	>300	2800	pur	>300	2800	pur	>300	2800
	1/10ème	292		1/10ème	288		1/10ème	271		1/10ème	>300	
	1/100ème	37		1/100ème	25		1/100ème	33		1/100ème	29	
	1/1000ème	4		1/1000ème	2		1/1000ème	2		1/1000ème	2	
I6	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
I7	pur	>300	3300	pur	>300	3500	pur	>300	2800	pur	>300	2600
	1/10ème	>300		1/10ème	>300		1/10ème	278		1/10ème	267	
	1/100ème	33		1/100ème	36		1/100ème	26		1/100ème	23	
	1/1000ème	3		1/1000ème	2		1/1000ème	3		1/1000ème	1	
I8	pur	114	120	pur	120	120	pur	107	110	pur	104	100
	1/10ème	17		1/10ème	13		1/10ème	15		1/10ème	10	
	1/100ème	1		1/100ème	1		1/100ème	1		1/100ème	1	
	1/1000ème	0		1/1000ème	1		1/1000ème	0		1/1000ème	0	
Incubation time for ISO dishes and EasyDisc YEA at 22°C: 69h												
Incubation time for ISO dishes and EasyDisc YEA at 36°C: 46h												

 VALIDATION & EXPERTISE			Interlaboratory study for the certification NF Validation of the EasyDisc YEA method									
			Results									
			Laboratory J									
Method	ISO 6222											
Bottle code	22°C			36°C			22°C			36°C		
letter +n°	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result
J1	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
J2	pur	>300	490	pur	>300	440	pur	>300	600	pur	>300	645
	1/10ème	46		1/10ème	43		1/10ème	61		1/10ème	66	
	1/100ème	8		1/100ème	5		1/100ème	5		1/100ème	5	
	1/1000ème	0		1/1000ème	2		1/1000ème	1		1/1000ème	3	
J3	pur	108	110	pur	100	100	pur	97	95	pur	117	120
	1/10ème	10		1/10ème	10		1/10ème	8		1/10ème	12	
	1/100ème	0		1/100ème	0		1/100ème	3		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
J4	pur	>300	470	pur	>300	545	pur	>300	590	pur	>300	530
	1/10ème	49		1/10ème	53		1/10ème	56		1/10ème	52	
	1/100ème	3		1/100ème	7		1/100ème	9		1/100ème	6	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	1	
J5	pur	>300	2980	pur	>300	2655	pur	>300	2670	pur	>300	2670
	1/10ème	290		1/10ème	266		1/10ème	259		1/10ème	260	
	1/100ème	38		1/100ème	26		1/100ème	35		1/100ème	34	
	1/1000ème	3		1/1000ème	3		1/1000ème	4		1/1000ème	3	
J6	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
J7	pur	>300	2420	pur	>300	3000	pur	>300	2510	pur	>300	2660
	1/10ème	237		1/10ème	290		1/10ème	250		1/10ème	264	
	1/100ème	29		1/100ème	40		1/100ème	26		1/100ème	29	
	1/1000ème	1		1/1000ème	0		1/1000ème	3		1/1000ème	2	
J8	pur	116	112	pur	108	110	pur	121	130	pur	116	120
	1/10ème	7		1/10ème	10		1/10ème	18		1/10ème	13	
	1/100ème	0		1/100ème	1		1/100ème	4		1/100ème	1	
	1/1000ème	0		1/1000ème	0		1/1000ème	1		1/1000ème	0	
Incubation time for ISO dishes and EasyDisc YEA at 22°C: 66h												
Incubation time for ISO dishes and EasyDisc YEA at 36°C: 42h												

 VALIDATION & EXPERTISE			Interlaboratory study for the certification NF Validation of the EasyDisc YEA method									
			Results									
			Laboratory K									
Method	ISO 6222						EasyDisc YEA					
Bottle code	22°C			36°C			22°C			36°C		
letter +n°	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result
K1	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
K2	pur	>300	550	pur	>300	460	pur	>300	750	pur	>300	430
	1/10ème	53		1/10ème	43		1/10ème	69		1/10ème	39	
	1/100ème	6		1/100ème	7		1/100ème	13		1/100ème	8	
	1/1000ème	2		1/1000ème	1		1/1000ème	1		1/1000ème	1	
K3	pur	126	120	pur	125	130	pur	132	140	pur	119	110
	1/10ème	11		1/10ème	13		1/10ème	19		1/10ème	5	
	1/100ème	1		1/100ème	0		1/100ème	1		1/100ème	2	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	1	
K4	pur	>300	440	pur	>300	460	pur	>300	510	pur	>300	560
	1/10ème	46		1/10ème	47		1/10ème	52		1/10ème	58	
	1/100ème	2		1/100ème	3		1/100ème	4		1/100ème	4	
	1/1000ème	0		1/1000ème	0		1/1000ème	1		1/1000ème	0	
K5	pur	>300	3400	pur	>300	2800	pur	>300	4100	pur	>300	3000
	1/10ème	>300		1/10ème	283		1/10ème	>300		1/10ème	288	
	1/100ème	35		1/100ème	29		1/100ème	42		1/100ème	41	
	1/1000ème	2		1/1000ème	3		1/1000ème	3		1/1000ème	5	
K6	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
K7	pur	>300	3100	pur	>300	3700	pur	>300	2500	pur	>300	3900
	1/10ème	>300		1/10ème	>300		1/10ème	>300		1/10ème	>300	
	1/100ème	28		1/100ème	36		1/100ème	23		1/100ème	37	
	1/1000ème	6		1/1000ème	5		1/1000ème	5		1/1000ème	6	
K8	pur	115	120	pur	123	120	pur	118	120	pur	129	130
	1/10ème	13		1/10ème	13		1/10ème	11		1/10ème	15	
	1/100ème	3		1/100ème	0		1/100ème	3		1/100ème	1	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
Incubation time for ISO dishes and EasyDisc YEA at 22°C: 68h15												
Incubation time for ISO dishes and EasyDisc YEA at 36°C: 44h15												

 VALIDATION & EXPERTISE			Interlaboratory study for the certification NF Validation of the EasyDisc YEA method									
			Results									
			Laboratory L									
Method	ISO 6222						EasyDisc YEA					
Bottle code	22°C			36°C			22°C			36°C		
letter +n°	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result
L1	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
L2	pur	>300	590	pur	>300	540	pur	>300	710	pur	>300	640
	1/10ème	58		1/10ème	54		1/10ème	70		1/10ème	63	
	1/100ème	6		1/100ème	5		1/100ème	8		1/100ème	7	
	1/1000ème	1		1/1000ème	2		1/1000ème	1		1/1000ème	1	
L3	pur	116	120	pur	102	100	pur	135	130	pur	120	120
	1/10ème	12		1/10ème	7		1/10ème	11		1/10ème	12	
	1/100ème	2		1/100ème	0		1/100ème	1		1/100ème	1	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	1	
L4	pur	>300	570	pur	>300	630	pur	>300	550	pur	>300	620
	1/10ème	54		1/10ème	66		1/10ème	58		1/10ème	64	
	1/100ème	8		1/100ème	3		1/100ème	3		1/100ème	4	
	1/1000ème	1		1/1000ème	1		1/1000ème	0		1/1000ème	0	
L5	pur	>300	2500	pur	>300	2900	pur	>300	3700	pur	>300	3500
	1/10ème	257		1/10ème	292		1/10ème	>300		1/10ème	>300	
	1/100ème	23		1/100ème	29		1/100ème	38		1/100ème	35	
	1/1000ème	3		1/1000ème	4		1/1000ème	3		1/1000ème	4	
L6	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
L7	pur	>300	3500	pur	>300	3900	pur	>300	3900	pur	>300	3400
	1/10ème	>300		1/10ème	>300		1/10ème	>300		1/10ème	>300	
	1/100ème	35		1/100ème	39		1/100ème	41		1/100ème	35	
	1/1000ème	3		1/1000ème	4		1/1000ème	2		1/1000ème	2	
L8	pur	130	130	pur	100	95	pur	123	120	pur	112	110
	1/10ème	13		1/10ème	5		1/10ème	7		1/10ème	14	
	1/100ème	0		1/100ème	2		1/100ème	3		1/100ème	1	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
Incubation time for ISO dishes and EasyDisc YEA at 22°C: 64h50												
Incubation time for ISO dishes and EasyDisc YEA at 36°C: 41h												

 VALIDATION & EXPERTISE			Interlaboratory study for the certification NF Validation of the EasyDisc YEA method									
			Results									
			Laboratory M									
Method	ISO 6222						EasyDisc YEA					
Bottle code	22°C			36°C			22°C			36°C		
letter +n°	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result
M1	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
M2	pur	>300	590	pur	>300	680	pur	>300	510	pur	>300	550
	1/10ème	56		1/10ème	71		1/10ème	54		1/10ème	54	
	1/100ème	9		1/100ème	4		1/100ème	2		1/100ème	6	
	1/1000ème	0		1/1000ème	1		1/1000ème	1		1/1000ème	0	
M3	pur	104	110	pur	106	100	pur	100	90	pur	97	100
	1/10ème	17		1/10ème	7		1/10ème	8		1/10ème	14	
	1/100ème	2		1/100ème	2		1/100ème	2		1/100ème	4	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
M4	pur	>300	710	pur	>300	750	pur	>300	620	pur	>300	510
	1/10ème	74		1/10ème	78		1/10ème	64		1/10ème	54	
	1/100ème	4		1/100ème	5		1/100ème	4		1/100ème	2	
	1/1000ème	0		1/1000ème	0		1/1000ème	2		1/1000ème	1	
M5	pur	>300	3600	pur	>300	4200	pur	>300	3500	pur	>300	3200
	1/10ème	>300		1/10ème	>300		1/10ème	>300		1/10ème	>300	
	1/100ème	38		1/100ème	42		1/100ème	36		1/100ème	32	
	1/1000ème	2		1/1000ème	4		1/1000ème	2		1/1000ème	3	
M6	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
M7	pur	>300	3600	pur	>300	3300	pur	>300	2400	pur	>300	3500
	1/10ème	>300		1/10ème	>300		1/10ème	>300		1/10ème	>300	
	1/100ème	34		1/100ème	34		1/100ème	24		1/100ème	31	
	1/1000ème	6		1/1000ème	2		1/1000ème	2		1/1000ème	8	
M8	pur	120	120	pur	124	120	pur	190	190	pur	91	90
	1/10ème	12		1/10ème	11		1/10ème	19		1/10ème	8	
	1/100ème	0		1/100ème	0		1/100ème	2		1/100ème	1	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
Incubation time for ISO dishes and EasyDisc YEA at 22°C: 68h												
Incubation time for ISO dishes and EasyDisc YEA at 36°C: 44h												

 VALIDATION & EXPERTISE			Interlaboratory study for the certification NF Validation of the EasyDisc YEA method									
			Results									
			Laboratory N									
Method	ISO 6222											
Bottle code	22°C			36°C			22°C			36°C		
letter +n°	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result
N1	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
N2	pur	>300	650	pur	>300	550	pur	>300	550	pur	>300	580
	1/10ème	62		1/10ème	53		1/10ème	55		1/10ème	58	
	1/100ème	8		1/100ème	6		1/100ème	6		1/100ème	4	
	1/1000ème	1		1/1000ème	1		1/1000ème	0		1/1000ème	2	
N3	pur	139	140	pur	136	130	pur	111	110	pur	120	120
	1/10ème	12		1/10ème	8		1/10ème	13		1/10ème	7	
	1/100ème	5		1/100ème	2		1/100ème	2		1/100ème	1	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
N4	pur	>300	610	pur	>300	750	pur	>300	570	pur	>300	550
	1/10ème	57		1/10ème	77		1/10ème	54		1/10ème	51	
	1/100ème	10		1/100ème	6		1/100ème	9		1/100ème	10	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
N5	pur	>300	2600	pur	>300	4200	pur	>300	3400	pur	>300	3000
	1/10ème	>300		1/10ème	>300		1/10ème	>300		1/10ème	288	
	1/100ème	29		1/100ème	44		1/100ème	33		1/100ème	40	
	1/1000ème	0		1/1000ème	2		1/1000ème	4		1/1000ème	2	
N6	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
N7	pur	>300	3800	pur	>300	4200	pur	>300	2800	pur	>300	3000
	1/10ème	>300		1/10ème	>300		1/10ème	282		1/10ème	>300	
	1/100ème	38		1/100ème	45		1/100ème	24		1/100ème	31	
	1/1000ème	4		1/1000ème	1		1/1000ème	5		1/1000ème	2	
N8	pur	110	110	pur	118	110	pur	102	110	pur	109	110
	1/10ème	6		1/10ème	5		1/10ème	13		1/10ème	12	
	1/100ème	0		1/100ème	0		1/100ème	1		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
Incubation time for ISO dishes and EasyDisc YEA at 22°C: 64h30												
Incubation time for ISO dishes and EasyDisc YEA at 36°C: 41h30												

 VALIDATION & EXPERTISE			Interlaboratory study for the certification NF Validation of the EasyDisc YEA method									
			Results									
			Expert Laboratory									
Method	ISO 6222						EasyDisc YEA					
Bottle code	22°C			36°C			22°C			36°C		
letter +n°	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result	Dilutions	Number of CFU	Result
1	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0				
	1/100ème	0		1/100ème	0		1/100ème	0				
	1/1000ème	0		1/1000ème	0		1/1000ème	0				
2	pur	>300	720	pur	>300	500	pur	>300	550	pur	>300	570
	1/10ème	73		1/10ème	51		1/10ème	55		1/10ème	54	
	1/100ème	6		1/100ème	4		1/100ème	6		1/100ème	9	
	1/1000ème	0		1/1000ème	0		1/1000ème	1		1/1000ème	1	
3	pur	122	120	pur	122	130	pur	114	120	pur	103	105
	1/10ème	13		1/10ème	17		1/10ème	14		1/10ème	13	
	1/100ème	2		1/100ème	0		1/100ème	1		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
4	pur	>300	550	pur	>300	490	pur	>300	710	pur	>300	550
	1/10ème	53		1/10ème	50		1/10ème	73		1/10ème	56	
	1/100ème	7		1/100ème	4		1/100ème	5		1/100ème	4	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
5	pur	>300	3400	pur	>300	4100	pur	>300	3300	pur	>300	3400
	1/10ème	>300		1/10ème	>300		1/10ème	>300		1/10ème	>300	
	1/100ème	35		1/100ème	40		1/100ème	35		1/100ème	32	
	1/1000ème	2		1/1000ème	5		1/1000ème	1		1/1000ème	5	
6	pur	0	<1	pur	0	<1	pur	0	<1	pur	0	<1
	1/10ème	0		1/10ème	0		1/10ème	0		1/10ème	0	
	1/100ème	0		1/100ème	0		1/100ème	0		1/100ème	0	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
7	pur	>300	2700	pur	>300	2900	pur	>300	3800	pur	>300	2600
	1/10ème	>300		1/10ème	>300		1/10ème	>300		1/10ème	>300	
	1/100ème	26		1/100ème	28		1/100ème	38		1/100ème	23	
	1/1000ème	4		1/1000ème	4		1/1000ème	4		1/1000ème	6	
8	pur	114	120	pur	139	135	pur	136	130	pur	115	115
	1/10ème	15		1/10ème	10		1/10ème	10		1/10ème	12	
	1/100ème	0		1/100ème	4		1/100ème	0		1/100ème	1	
	1/1000ème	0		1/1000ème	0		1/1000ème	0		1/1000ème	0	
Incubation time for ISO dishes and EasyDisc YEA at 22°C: 70h15												
Incubation time for ISO dishes and EasyDisc YEA at 36°C: 48h												