

NF VALIDATION
Validation of alternative analytical methods
Application in food microbiology

Summary report

Validation study according to EN ISO 16140-2:2016

RAPID'Campylobacter method

(Certificate number: 07/25 - 01/14)

for the enumeration of *Campylobacter jejuni*, *coli* and
lari in meat and meat products, poultry and poultry
products and production environment samples

Quantitative method

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This report consists of 87 pages, including 9 appendices.
Only copies including the totality of this report are authorized.

Competencies of the laboratory are certified by COFRAC accreditation for the analyses marked with the symbol♦.

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Quality Assurance documents related to this study can be consulted upon request from **BIO-RAD**.

Measurement uncertainty on the reference method results is not taken into account to provide the conclusion in this report; this measurement uncertainty is however available.

The technical protocol and the result interpretation were realized according to the EN ISO 16140-2:2016 and the AFNOR technical rules (PR Revision 7).

Validation protocols	<ul style="list-style-type: none"> ▪ ISO 16140-1 (2016): Microbiology of the food chain - Method validation — <i>Part 1: Vocabulary</i> ▪ ISO 16140-2 (2016): Microbiology of the food chain - Method validation — <i>Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method</i> ▪ AFNOR technical rules (PR Revision 7).
Reference method*	ISO 10272-2:2017 - Microbiology of the food chain - Horizontal method for detection and enumeration of <i>Campylobacter</i> spp. - Part 2: Colony-count technique
Alternative method	RAPID'Campylobacter
Scope	<input checked="" type="checkbox"/> Meat and meat products <input checked="" type="checkbox"/> Poultry and poultry products <input checked="" type="checkbox"/> Production environmental samples
Certification organization	AFNOR Certification (http://nf-validation.afnor.org/)

* Analyses performed according to the COFRAC accreditation

1 INTRODUCTION

The RAPID'Campylobacter method for *Campylobacter jejuni*, *coli* and *lari*. enumeration was initially validated in 2014 according to the EN ISO 16140:2003 protocol and the AFNOR technical rules (Certificate number 07/25 - 01/14) for:

- Meat and meat products,
- Poultry and poultry products,
- Production environmental samples.

A summary of the different validation studies is listed below:

Date	Study	Validation standard	ISO method
January 2014	Initial validation	EN ISO 16140:2003	ISO/TS 10272-2 (2006)
July 2018	Renewal study	EN ISO 16140-2:2016	ISO 10272-2 (2017)
December 2021	Renewal study	EN ISO 16140-2:2016	ISO 10272-2 (2017)

2 METHODS DESCRIPTION

2.1 Alternative method

The flow diagram of the alternative method is provided in **Appendix 1**.

2.1.1 Principle

RAPID'Campylobacter medium is a selective chromogenic agar used for the detection and enumeration of the main species of thermophilic *Campylobacter* spp. (*C. jejuni*, *C. coli* and *C. lari*) in food and environmental samples. The use of a selective nutritive mixture in association with a reducing agent allows for rapid growth of *Campylobacter* spp. The growth of other bacterial species, as well as yeasts and molds, is inhibited on this selective medium. *Campylobacter* spp. produces brick-red colonies on RAPID'Campylobacter medium.

2.1.2 Protocol

After preparation of initial suspension in appropriate diluent (1/10, according to the ISO 6887 parts), the suspension is plated on RAPID'Campylobacter agar plates.

The plates are inoculated by spreading: 1 ml on 3 RAPID'Campylobacter plates (for estimation of low contamination levels) or 0.1 ml on RAPID'Campylobacter plate per dilution.

The plates are incubated in microaerophilic atmosphere at $41.5^{\circ}\text{C} \pm 1^{\circ}\text{C}$ for $44\text{ h} \pm 4\text{ h}$.

The typical colonies (brick-red colonies) are enumerated and confirmed by:

- PCR iQ-Check *Campylobacter* directly from isolated typical colony.
- The *Campylobacter* confirm latex test on isolated colony.

It is possible to store the plates for 72 h at $5^{\circ}\text{C} \pm 3^{\circ}\text{C}$ before enumeration.

2.1.3 Restrictions

There is no restriction for use.

2.2 Reference method♦

The reference method used for the initial validation was the ISO/TS 10272-2:2006: Horizontal method for detection and enumeration of *Campylobacter* spp. Part 2: Colony count technique (See **Appendix 2**).

For the renewal study the ISO 10272-2:2017 - Microbiology of the food chain - Horizontal method for detection and enumeration of *Campylobacter* spp. - Part 2: Colony-count technique was used.

The modifications which occur in the version published in 2017 are considered as major but have no impact on the previous data.

2.3 Protocols applied during the initial validation and the renewal study

Incubation times

For the initial validation study (2014), the following incubation times were tested:

- 48 h
- 72 h storage at $5^{\circ}\text{C} \pm 3^{\circ}\text{C}$

For the renewal study (2018), the following incubation times were tested:

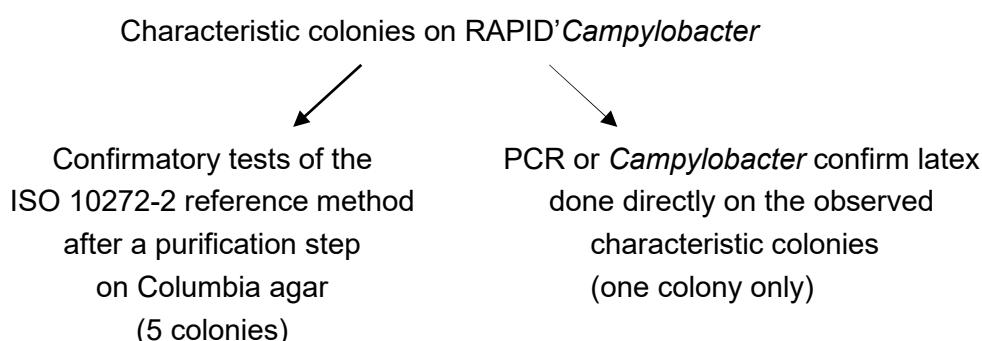
- 40 h
- 72 h storage at $5^{\circ}\text{C} \pm 3^{\circ}\text{C}$

Confirmation protocols

A PCR test (iQ-CHECK) and a latex test are proposed to confirm the observed characteristic colonies on RAPID'Campylobacter agar. Both confirmation tests were done on the same characteristic colony.

In order to check the performances of the proposed confirmatory protocol, the confirmations were realized with the latex and PCR tests as well as the confirmatory tests described in the ISO/TS 10272-2 reference method on typical colonies according to this scheme (See Figure 1).

Figure 1



The following confirmatory tests were applied during the validation study. One colony was confirmed per RAPID'Campylobacter:

- For the initial validation study (48 h):
 - by PCR test (iQ-Check)
 - by the Campylobacter Confirm latex test
 - by the tests described in the ISO method

- For the renewal study (40 h):
 - by PCR test (iQ-Check)
 - by the Campylobacter Confirm latex test
 - by the tests described in the ISO method.

Storage of plates

The storage of the RAPID'Campylobacter plates for 72 h at 5 °C ± 3 °C was tested before enumeration and confirmation.

3 INITIAL VALIDATION, EXTENSION/RENEWAL STUDIES: RESULTS

3.1 Method comparison study

The method comparison study is a study performed by the expert laboratory to compare the alternative method with the reference method.

The study was carried out on a diversity of samples and strains representative of agri-food products. This does not constitute an exhaustive list of the different matrices included in the scope.

For any comment on the alternative method, please contact AFNOR Certification at <http://nf-validation.afnor.org/contact-2/>.

3.1.1 Relative trueness study

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

3.1.1.1 Number and nature of the samples

120 samples were tested for the initial validation study in 2013 and 36 were tested for the renewal study in 2018.

Taking into account all the studies, the repartition per tested category and type is provided in Table 1.

Table 1 – Categories and types

	Category	Type	Tested samples	Interpretable results	
				44 h ± 4 h	44 h ± 4 h +72h
1	Meat and meat products (except poultry)	a Fresh meat (unprocessed) under different storage conditions	14	6	6
		b Carcass samples	15	7	7
		c Processed meat products	21	13	13
		Total	50	26	26
2	Poultry and poultry products	a Fresh meat (unprocessed) under different storage conditions	22	10	10
		b Carcass samples	15	7	7
		c Cooked meat products	22	6	6
		Total	59	23	23
3	Production environmental samples	a Wastes	12	5	5
		b Equipment/production environment	15	7	7
		c Water used in the manufacturing process	20	7	7
		Total	47	19	19
All categories			156	68	68

156 samples were analyzed, leading to 68 interpretable results by both methods after 40 - 48 h incubation and after storage for 72 h at 5°C ± 3°C.

3.1.1.2 Artificial and natural contamination of the samples

The inoculated strains, the contamination protocols, the injured protocols of the inoculated cells and the injury evaluation are provided in **Appendix 3**. Injury efficiency was evaluated by enumerating the pure cultures on selective and non-selective agars.

74 samples were artificially contaminated; 39 gave interpretable results by both methods.

28 naturally contaminated samples (41.2 %) gave interpretable results by both methods.

3.1.1.3 Confirmatory tests

All the observed characteristic colonies gave positive results by all the tested confirmation procedures, except in the cases described in the Table 2.

The colonies were identified by 16S rDNA sequencing.

Table 2 - Strains not identified as *Campylobacter* spp

+ µ: microcolonies

(): number of colonies tested

Sample No	Product	RAPID' <i>Campylobacter</i> 48h / 41.5°C					Identification by 16S rDNA sequencing	
		Dilution	CFU/plate		PCR	Campylobacter confirm latex		
			Rep 1	Rep 2				
3177	Swab (turkey industry)	100	95 + µ	71 + µ	- (5)	- (5)	- (5)	<i>Pseudomonas otitidis</i> / <i>Pseudomonas</i> spp / <i>Enterococcus gallinarum</i>
		1000	0	0	/	/	/	
3178	Swab (turkey industry)	1000	>150	>150	/	/	/	<i>Pseudomonas otitidis</i> / <i>Arcobacter butzleri</i>
		10000	29	28	- (5)	- (5)	- (5)	
3179	Swab (turkey industry)	10	274	96	- (5)	- (5)	- (5)	<i>Pseudomonas otitidis</i> / <i>Pseudomonas aeruginosa</i> / <i>Enterococcus gallinarum</i>
		100	21	0	- (5)	- (5)	- (5)	
3180	Turkey wastes	100	73	32	- (5)	- (5)	- (5)	<i>Pseudomonas otitidis</i> / <i>Enterococcus faecium</i>
		1000	1	0	- (1)	Inconclusive result (1)	- (1)	

3.1.1.4 Raw data

The raw data are provided in **Appendix 4**.

Samples were analyzed by the reference and the alternative methods in order to have 15 interpretable results per category, and 5 interpretable results per tested type.

The data are classified in four categories (See Table 3):

- Interpretable results with the reference and the alternative methods;
- Results with less than 4 colonies per plate with the reference and/or the alternative method (indicated with “*” in the data) in order to have a more precise result. These results are not included in the calculation.
- Results below or above the quantification limit: according to the ISO 16140-2:2016, if any result (either reference or alternative method) is below the quantification limit, the data should be plotted using a substituted value of 1 \log_{10} units less than the observed value in case of a lower than value. Similarly, any value greater than the upper limit should be amending by adding 1 log unit more. These results are not included in the calculations but also appear on the graphs.
- Samples with non-determined result (ND).

Table 3 - Classification of the data

Category	Number of tested samples	Number of samples with less than 4 colonies per plate		Number of samples with results below or above the quantification limit		Number of samples with non-determined results		Number of samples providing interpretable results by the reference and alternative methods		
		40-48h	40-48h + 72h	40-48h	40-48h + 72h	40-48h	40-48h + 72h	40-48h	40-48h + 72h	
1	Meat and meat products (except poultry)	50	4	4	20	20	0	0	26	26
2	Poultry and poultry products	59	4	6	31	29	1	1	23	23
3	Production environmental samples	47	5	5	19	19	4	4	19	19
All categories		156	13	15	70	68	5	5	68	68

The samples, which were not used in the calculations, are provided in Table 4.

Table 4 - Samples which were not used in the calculations

Sample N°	Product	Reference method : ISO 10272-2* (log CFU/g)	Alternative method: RAPID'Campylobacter (log CFU/g)		Category	Type
			40 - 48 h at 41.5°C	40 - 48 h at 41.5°C + 72 h at 5°C ± 3°C		
3136	Ground beef	<1,00	<1,00	<1,00	1	a
3137	Raw processed beef meat	<1,00	<1,00	<1,00	1	c
3138	Raw pork meat pork	<1,00	<1,00	<1,00	1	a
3139	Raw lamb meat	<1,00	<1,00	<1,00	1	a
3140	Sausage	<1,00	<1,00	<1,00	1	c
4217	Pork carcass	<1,00	<1,00	<1,00	1	b
4681	Processed beef meat	1,48*	1,48*	1,48*	1	c
4793	Processed beef meat	3,00*	2,70	2,70	1	c
4796	Processed veal meat	1,30*	<1,00	<1,00	1	c
4797	Lamb meat	<1,00	<1,00	<1,00	1	a
4850	Pork sausage with aromatic herbs	<1,00	1,30*	1,30*	1	c
4851	Pork sausage with onion	3,00*	3,40	3,40	1	c
4852	Lamb meat	<1,00	1,00*	1,00*	1	a
4853	Lamb meat	1,48*	2,11	2,11	1	a
4854	Lamb meat	<1,00	1,30*	1,30*	1	a
2455	Sample pork carcass	<1,00	<1,00	<1,00	1	b
2456	Sample pork carcass	<1,00	<1,00	<1,00	1	b
2457	Sample pork carcass	<1,00	<1,00	<1,00	1	b
2458	Sample beef carcass	<1,00	<1,00	<1,00	1	b
2459	Sample beef carcass	<1,00	<1,00	<1,00	1	b
2460	Sample beef carcass	<1,00	<1,00	<1,00	1	b
2483	Marinated beef trim	<1,00	<1,00	<1,00	1	c
2967	Sample beef carcass	<1,00	1,00*	1,00*	1	b
3333	Pork trim	<1,00	1,00*	1,00*	1	a
3141	Chicken leg	<1,00	<1,00	<1,00	2	a
3181	Raw Chicken meat	<1,00	<1,00	<1,00	2	a
3182	Cockerel	<1,00	<1,00	<1,00	2	a
3183	Quail	<1,00	3,60	3,60	2	a
3186	Chicken salted meat	<1,00	<1,00	<1,00	2	c
3187	Chicken salted meat	1,00*	1,30*	1,30*	2	c
3188	Chicken salted meat	<1,00	1,00*	1,00*	2	c
3525	Chicken gizzard	<1,00	3,60	3,60	2	a
3764	Chicken leg	<1,00	<1,00	<1,00	2	a
3765	Guinea fowl neck skin	<1,00	<1,00	<1,00	2	a
3766	Chicken leg	1,30*	<1,00	<1,00	2	a
3767	Poultry neck skin	<1,00	<1,00	<1,00	2	a
3769	Guinea fowl carcass	<1,00	<1,00	<1,00	2	b
3770	Guinea fowl gizzard	<1,00	<1,00	<1,00	2	a

* Analyses performed according to the COFRAC accreditation

Sample N°	Product	Reference method : ISO 10272-2 [♦] (log CFU/g)	Alternative method: RAPID'Campylobacter (log CFU/g)		Category	Type
			40 - 48 h at 41.5°C	40 - 48 h at 41.5°C + 72 h at 5°C ± 3°C		
4044	Guinea fowl carcass	<2,00	<2,00	<2,00	2	b
4045	Guinea fowl carcass	<2,00	<2,00	<2,00	2	b
4047	Guinea fowl leg	<1,00	<1,00	<1,00	2	a
4050	Cooked duck liver (foie gras)	<1,00	<1,00	<1,00	2	c
4051	Cooked meat turkey	<1,00	<1,00	<1,00	2	c
4053	Cooked meat chicken	<1,00	<1,00	<1,00	2	c
4171	Water Guinea fowl carcass	1,30*	1,60	1,60	2	b
4172	Water Guinea fowl carcass	1,48*	1,00*	1,00*	2	b
4222	Processed poultry meat product	<1,00	<1,00	<1,00	2	c
4223	Processed duck meat product	<1,00	<1,00	<1,00	2	c
4225	Processed turkey meat product	1,48*	<1,00	<1,00	2	c
4324	Processed chicken meat product	1,00*	<1,00	<1,00	2	c
4325	Processed chicken meat product	1,00*	<1,00	<1,00	2	c
4326	Processed duck meat product	<1,00	<1,00	<1,00	2	c
4328	Processed poultry meat product	<1,00	<1,00	<1,00	2	c
2451	Turkey neck skin	2,00*	3,08	3,08	2	b
2453	Chicken neck skin	<1,00	2,04	2,04	2	b
2489	Poultry neck skin	<1,00	<1,00	<1,00	2	b
4224	Processed chicken meat product	1,90	<1,00	<1,00	2	c
4327	Processed turkey meat product	1,85	1,00*	1,00*	2	c
3173	Water process (turkey industry)	<3,00	4,20	4,20	3	c
3174	Water process (turkey industry)	<2,00	<2,00	<2,00	3	c
3175	Water process (turkey industry)	<2,00	<2,00	<2,00	3	c
3176	Swab (turkey industry)	<3,00	<1,00	<1,00	3	b
3177	Swab (turkey industry)	ND	<2,00	<2,00	3	b
3178	Swab (turkey industry)	ND	<4,00	<4,00	3	b
3179	Swab (turkey industry)	<4,00	<1,00	<1,00	3	b
3180	Turkey wastes	ND	<2,00	<2,00	3	a
3514	Process water (chicken industry)	<1,00	<1,00	<1,00	3	c
3518	Process water(chicken industry)	<1,00	<1,00	<1,00	3	c
3524	Chicken meat cut	3,00*	3,73	3,74	3	a
4219	Swab (pork industry)	<1,00	1,00*	1,00*	3	b
4220	Water process (pork industry)	<1,00	<1,00	<1,00	3	c
4226	Swab (pork industry)	1,00*	<1,00	<1,00	3	b
4330	Water process (pork industry)	<1,00	1,78	1,78	3	c
4927	Process water (poultry industry)	<1,00	<1,00	<1,00	3	c
4928	Swab (poultry industry)	<1,00	1,00*	1,00*	3	b
4930	Process water (poultry industry)	<1,00	<1,00	<1,00	3	c
4935	Process water (poultry industry)	1,30*	<1,00	<1,00	3	c
2461	Pork wastes	<1,00	<1,00	<1,00	3	a
2462	Beef wastes	<1,00	<1,00	<1,00	3	a
2487	Beef wastes	<2,00	<2,00	<2,00	3	a
2994	Dusts	3,00*	3,26	3,26	3	a
4049	Water process (guinea fowl industry)	3,30	ND	ND	3	c
4218	Swab (pork industry)	1,60	1,30*	1,30*	3	b

Sample N°	Product	Reference method : ISO 10272-2 [♦] (log CFU/g)	Alternative method: RAPID'Campylobacter (log CFU/g)		Category	Type
			40 - 48 h at 41.5°C	40 - 48 h at 41.5°C + 72 h at 5°C ± 3°C		
4221	Pork wastes	2,04	1,00*	1,00*	3	a
4926	Process water (poultry industry)	1,60	<1,00	<1,00	3	c
4931	Process water (poultry industry)	1,70	1,48*	1,48*	3	c

*: result with less than 4 colonies per plate

3.1.1.5 Statistical interpretation

The calculations are provided in **Appendix 5**.

The obtained data were analyzed using the scatter plot. The graphs are provided with the line of identity ($y = x$).

The Figures 2 to 4 show the data plotted for each individual category.

The Figure 4 shows the data plotted for all the products.

Figure 2 - Data plotted for the Meat and meat products (except poultry)

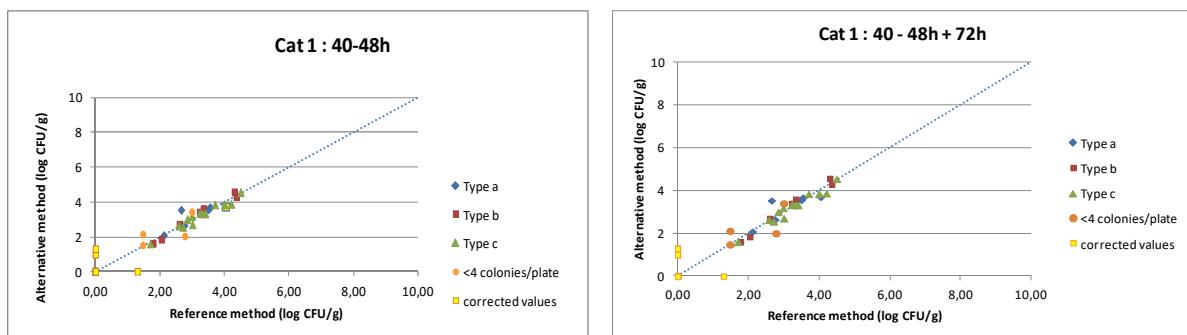


Figure 3 - Data plotted for Poultry and poultry products

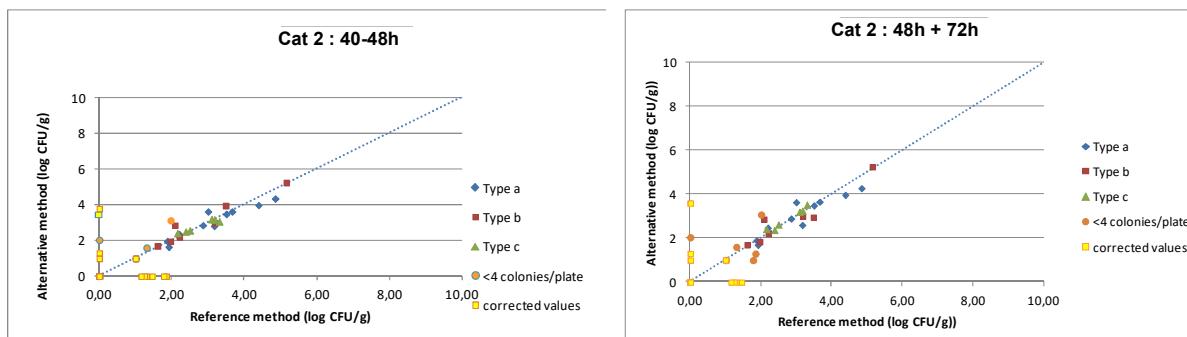
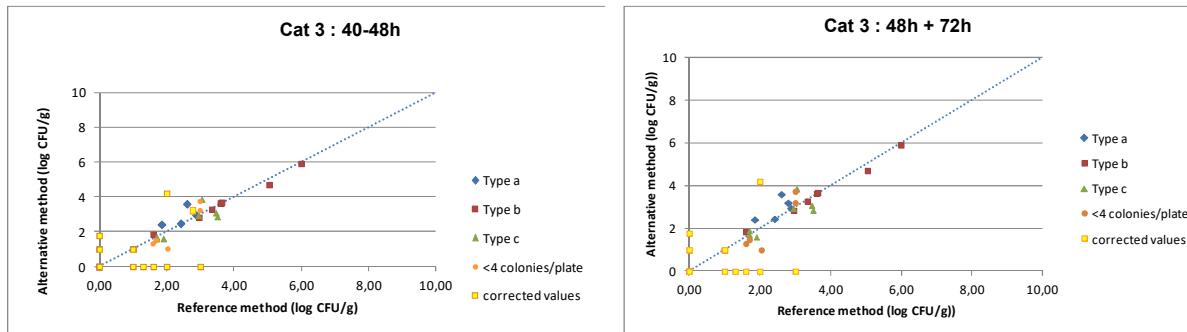
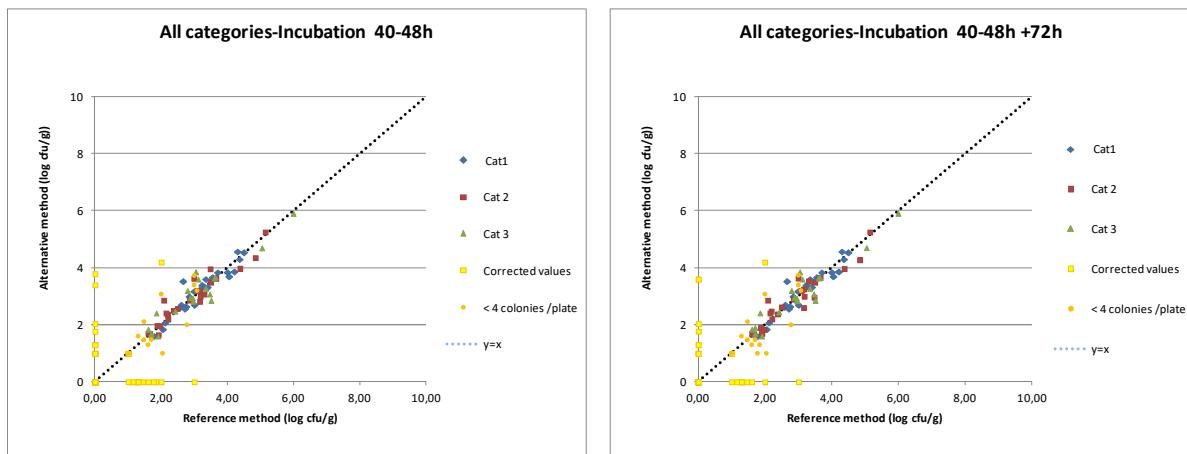


Figure 4 - Data plotted for Production environmental samples**Figure 5 - Data plotted for all the products**

The calculated values for Average difference and Standard deviation differences per category are provided in table 5.

Table 5 - Calculated values

Incubation time	Category	n	\bar{D} (Linear bias)	SD	95% lower limit	95% upper limit
40 - 48 h	1-Meat and meat products (except poultry)	26	0,02	0,25	-0,50	0,54
	2-Poultry and poultry products	23	0,05	0,30	-0,59	0,69
	3-Production environmental samples	19	0,04	0,35	-0,73	0,81
	All categories	68	0,04	0,29	-0,56	0,63
40 - 48 h + 72 h	1-Meat and meat products (except poultry)	26	0,02	0,25	-0,50	0,54
	2-Poultry and poultry products	23	0,01	0,33	-0,69	0,72
	3-Production environmental samples	19	0,05	0,35	-0,72	0,82
	All categories	68	0,03	0,31	-0,59	0,64

\bar{D} : Average difference

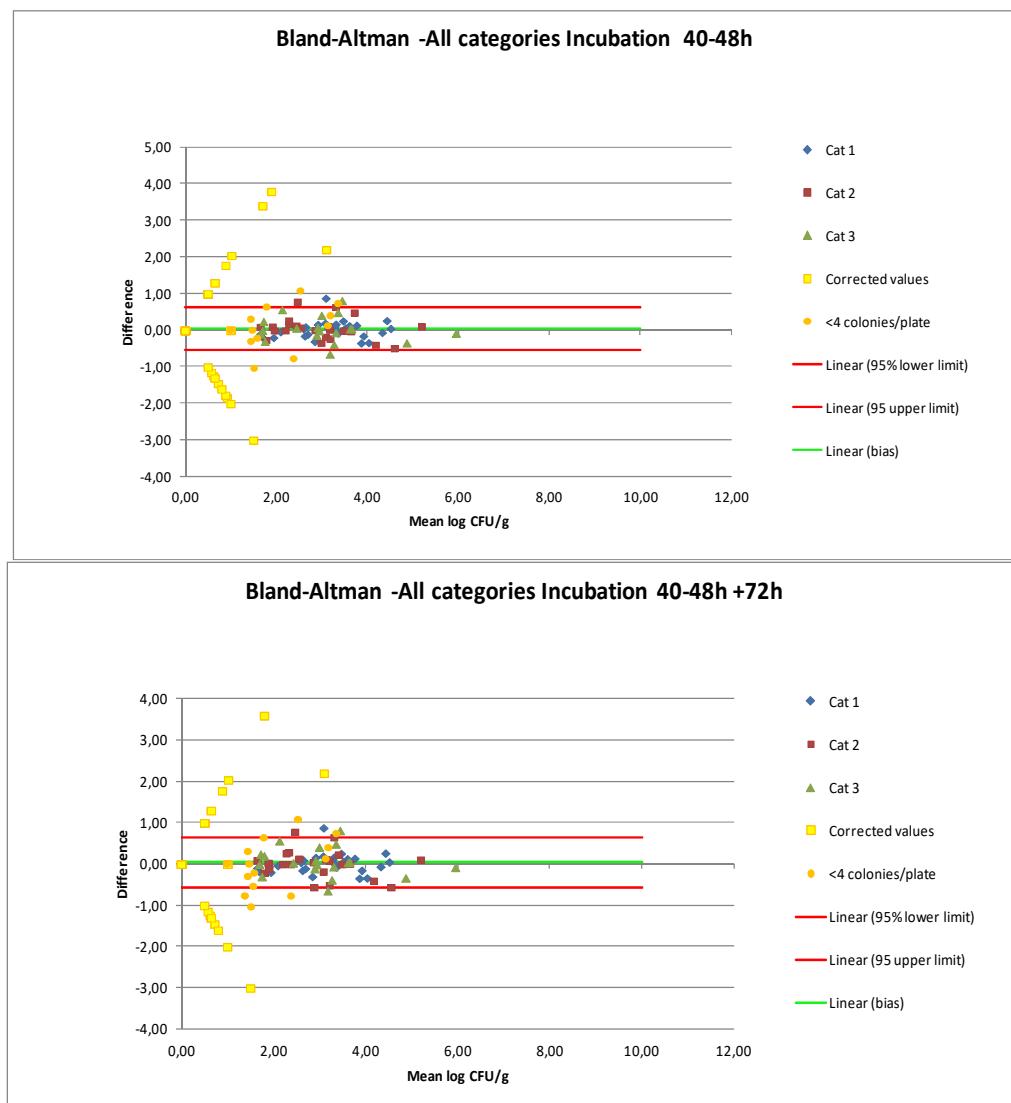
SD: Standard deviation of differences

After 40 - 48 h incubation time, the average differences vary from 0.02 log (Meat products) to 0.05 log (poultry products).

After storage at $5^{\circ}\text{C} \pm 3^{\circ}\text{C}$, the average differences vary from 0.01 log (poultry products) to 0.05 log (environmental samples).

The Bland-Altman difference plot for all the samples is given Figure 6.

Figure 6 – Bland-Altman difference plot for all the samples



Samples for which the difference between the result observed with the reference and the alternative methods is above or lower than the limits are listed in Table 6.

Table 6 - Analysis of the data out of confidence limits

Values in green: differences in favor of the alternative method

Values in red: differences in favor of the reference method

	Corrected value
	Results calculated using enumeration lower than 4 CFU/plate

Category			
1	Meat and meat products (except poultry)	2	Poultry and poultry products
3	Production environmental samples		

Incubation time	Classification of the data	Category	Type	N° Sample	Reference method	Alternative method	Values before correction (Reference or/and alternative method)	Mean	Difference	Lower / Upper limits
40 - 48 h	Interpretable results by both methods	3	c	4329	3,51	2,86	/	3,18	-0,65	
		1	a	4674	2,65	3,53	/	3,09	0,88	
		2	a	4858	2,99	3,63	/	3,31	0,64	
	< 4 CFU/plate	2	b	2450	2,08	2,86	/	2,47	0,78	
		3	c	3513	3,04	3,86	/	3,45	0,82	
		1	c	2974	2,78	2,00	/	2,39	-0,78	
		3	a	4221	2,04	1,00	/	1,52	-1,04	
		2	b	2451	2,00	3,08	/	2,54	1,08	
		3	a	3524	3,00	3,73	/	3,37	0,73	
	< or > the quantification limit	1	c	4796	1,30	0,00	1,00	0,65	-1,30	
		2	a	3766	1,30	0,00	1,00	0,65	-1,30	
		2	c	4052	1,84	0,00	1,00	0,92	-1,84	
		2	c	4224	1,45	0,00	1,00	0,73	-1,45	
		2	c	4225	1,24	0,00	1,00	0,62	-1,24	
		2	c	4324	1,15	0,00	1,00	0,58	-1,15	
		2	c	4327	1,77	0,00	1,00	0,89	-1,77	
		3	b	3176	2,00	0,00	1,00	1,00	-2,00	
		3	b	3179	3,00	0,00	1,00	1,50	-3,00	
		3	b	4226	1,00	0,00	1,00	0,50	-1,00	
		3	c	4926	1,60	0,00	1,00	0,80	-1,60	
		3	c	4935	1,30	0,00	1,00	0,65	-1,30	
		1	a	4852	0,00	1,00	1,00	0,50	1,00	
		1	a	4854	0,00	1,30	1,00	0,65	1,30	
		1	a	3333	0,00	1,00	1,00	0,50	1,00	
		1	b	2967	0,00	1,00	1,00	0,50	1,00	
		1	c	4850	0,00	1,30	1,00	0,65	1,30	
		2	a	3183	0,00	3,40	1,00	1,70	3,40	
		2	a	3525	0,00	3,79	1,00	1,90	3,79	
		2	b	2453	0,00	2,04	1,00	1,02	2,04	
		2	c	3187	0,00	1,30	1,00	0,65	1,30	
		2	c	3188	0,00	1,00	1,00	0,50	1,00	
		3	b	4219	0,00	1,00	1,00	0,50	1,00	
		3	b	4928	0,00	1,00	1,00	0,50	1,00	
		3	c	3173	2,00	4,20	3,00	3,10	2,20	
		3	c	4330	0,00	1,78	1,00	0,89	1,78	

-0,56 / 0,63

Incubation time	Classification of the data	Category	Type	N° Sample	Reference method	Alternative method	Values before correction (Reference or/and alternative method)	Mean	Difference	Lower / Upper limits
40 - 48 h + 72 h	Interpretable results by both methods	3	c	4329	3,51	2,86	/	3,18	-0,65	-0,59 / 0,64
		1	a	4674	2,65	3,53	/	3,09	0,88	
		2	a	4858	2,99	3,64	/	3,32	0,65	
	< 4 CFU/plate	2	b	2450	2,08	2,86	/	2,47	0,78	
		3	c	3513	3,04	3,86	/	3,45	0,82	
		1	c	2974	2,78	2,00	/	2,39	-0,78	
		2	c	4327	1,77	1,00	/	1,39	-0,77	
		3	a	4221	2,04	1,00	/	1,52	-1,04	
		2	b	2451	2,00	3,08	/	2,54	1,08	
		3	a	3524	3,00	3,74	/	3,37	0,74	
	< or > the quantification limit	1	c	4796	1,30	0,00	1,00	0,65	-1,30	
		2	a	3766	1,30	0,00	1,00	0,65	-1,30	
		2	c	4224	1,45	0,00	1,00	0,73	-1,45	
		2	c	4225	1,24	0,00	1,00	0,62	-1,24	
		2	c	4324	1,15	0,00	1,00	0,58	-1,15	
		3	b	3176	2,00	0,00	1,00	1,00	-2,00	
		3	b	3179	3,00	0,00	1,00	1,50	-3,00	
		3	b	4226	1,00	0,00	1,00	0,50	-1,00	
		3	c	4926	1,60	0,00	1,00	0,80	-1,60	
		3	c	4935	1,30	0,00	1,00	0,65	-1,30	
		1	a	4852	0,00	1,00	1,00	0,50	1,00	
		1	a	4854	0,00	1,30	1,00	0,65	1,30	
		1	a	3333	0,00	1,00	1,00	0,50	1,00	
		1	b	2967	0,00	1,00	1,00	0,50	1,00	
		1	c	4850	0,00	1,30	1,00	0,65	1,30	
		2	a	3183	0,00	3,60	1,00	1,80	3,60	
		2	a	3525	0,00	3,60	1,00	1,80	3,60	
		2	b	2453	0,00	2,04	1,00	1,02	2,04	
		2	c	3187	0,00	1,30	1,00	0,65	1,30	
		2	c	3188	0,00	1,00	1,00	0,50	1,00	
		3	b	4219	0,00	1,00	1,00	0,50	1,00	
		3	b	4928	0,00	1,00	1,00	0,50	1,00	
		3	c	3173	2,00	4,20	3,00	3,10	2,20	
		3	c	4330	0,00	1,78	1,00	0,89	1,78	

3.1.1.6 Discordant results

The number of samples outside the 95 % confidence level is given Table 7

Table 7 - Number of samples outside the confidence limits

		Number of samples	
		40 - 48 h	40 - 48 h + 72 h at 5°C ± 3°C
Interpretable results by both methods	< LCL	1	1
	> UCL	4	4
	Total	5	5
<4 CFU/plate	< LCL	2	3
	> UCL	2	2
	Total	4	5
< or > the quantification limit	< LCL	12	10
	> UCL	14	14
	Total	26	24
Total < LCL		15	14
Total >UCL		20	20
TOTAL		35	34

For the interpretable results, the number of samples above the confidence level is higher than the number of samples below the confidence level, this after 40 - 48 h incubation time and after storage of the plates for 72 h at 5°C ± 3°C. The same results are observed when taking into account all the data.

3.1.1.7 Conclusion

The relative trueness of the alternative method is satisfying for enumeration after an incubation time of 40 - 48 h and after plates storage for 72 h at 5°C ± 3°C.

3.1.2 Accuracy profile study

The accuracy profile is a graphical representation of the capacity of measurement of the quantitative method, obtained by combining acceptability intervals and β -expectation tolerance intervals, both reported to different levels of the reference value.

3.1.2.1 Matrices

Three matrices were tested. A minimum of one type per category, and therefore 2 different batches, was selected, using 6 samples per type. 2 samples are contaminated at a low level, 2 at intermediate level, 2 at a high level. For each sample, 5 replicates (5 different test portions) were tested. The tested categories, types, matrix and inoculated strains are provided in Table 8.

Table 8 - Categories, types and matrices

Category		Type	Product	Inoculated strain	Origin	Inoculation level (CFU/g)
1	Meat and meat products (except poultry)	Fresh meat (unprocessed) under different storage conditions	Pork sausage meat	<i>Campylobacter coli</i> Ad 1889	Pork carcass	10^2 10^3 10^4
2	Poultry and poultry products	Fresh meat (unprocessed) under different storage conditions	White chicken meat	<i>Campylobacter jejuni</i> Ad 1021	Poultry	
3	Production environmental samples	Water used in the manufacturing process	Process water	<i>Campylobacter coli</i> Ad 1087	Poultry slaughter-house	

3.1.2.2 Calculation and interpretation

The raw data are provided in **Appendix 6**. The summary tables (in log CFU/g) and calculations are provided in **Appendix 7**. The statistical results and the accuracy profiles are provided Figure 9.

The calculations were done using the AP Calculation Tool MCS (Clause 6-1-3-3 calculation and interpretation of accuracy profile study) ver 31-07-2018 available on <http://standards.iso.org/iso/16140>.

Figure 7 – Accuracy profile

40 h



If any of the upper or lower limits exceeds the limits and the standard deviation, additional evaluation procedure has to be followed, as described the ISO 16140-2 (2016): new acceptability limits as a function of the standard deviation $AL_s = 4 \cdot s_{ref}$ are calculated. This is the case for the white chicken meat ($AL = \pm 0.624$) and the process water ($AL = \pm 0.748$).

The accuracy profiles are within the ALs except for the white chicken meat for one batch at the intermediate inoculation level (upper $\beta\text{.ETI} = 0.663$).

3.1.2.3 Conclusion

The observed profiles are in most of the cases comprised within the ALs.

3.1.3 Inclusivity and exclusivity studies

The inclusivity study is a study involving pure target strains to be detected or enumerated by the alternative method.

The exclusivity study is a study involving pure non-target strains, which can be potentially cross-reactive, but are not expected to be detected or enumerated by the alternative method.

3.1.3.1 Protocol

After growth under appropriate conditions, decimal dilutions were realized and enumerated in duplicate by RAPID'Campylobacter method and ISO/TS 10272-2 standard. Targeted strains and non-targeted strains dilutions were enumerated in parallel with a non-selective agar (Columbia blood agar or PCA).

For the initial validation study, the strains were tested in duplicate. For the renewal study, the tests were performed once for both methods.

3.1.3.2 Results

The raw data are provided in **Appendix 8**.

Inclusivity

For the initial validation study, 35 targeted strains of *Campylobacter* spp. were enumerated onto RAPID'Campylobacter plates, mCCDA and CBA plates. For the renewal study (2018), 19 additional strains were tested.

48 strains showed typical colonies on RAPID'Campylobacter plates. Note that for 3 *Campylobacter lari* (ATCC35222, CIP 102722T, Ad1911), the number of colonies enumerated on the RAPID'Campylobacter plates was lower than those enumerated on CBA and mCDDA plates.

For 3 strains (*C. upsaliensis* ATCC 43954, ATCC 49816, CIP103681 and ATCC49815), no colony was observed on mCDDA and RAPID'Campylobacter plates. For one strain (Ad1139), small colonies were observed only on mCCDA plates.

All the targeted strains gave a positive latex test, except 2 *Campylobacter lari* (Ad1067 and Ad1130).

Exclusivity

For the initial validation study, 21 non-targeted strains were tested with the RAPID'Campylobacter method.

For the renewal study (2018), 10 additional strains were tested.

Typical colonies were observed on RAPID'Campylobacter plates for 2 strains: *Ralstonia mannitolilytica* Ad1059 and DSM 17512. One of them (Ad1059) gave also typical colonies onto mCCDA plates. These 2 strains gave an inconclusive latex result with a clear atypical reaction.

The inclusivity and exclusivity testing shows satisfying results

3.2 Practicability

The practicability of the RAPID'Campylobacter method was studied for the initial validation study of 2014 (See **Table 9**).

Table 9 - Practicability

Storage conditions and shelf-life	RAPID'Campylobacter media powder is stored at room temperature. The expiration date is mentioned on the flask. The supplement is stored at 2-8°C. The expiration date is mentioned on the package. The Campylobacter confirm latex is stored at 2-8°C. The expiration date is mentioned on the box.		
Time to result	Steps	Reference method	Alternative method
	Negative samples		
	Sampling, analysis	Day 0	Day 0
	Enumeration	Day 2	Day 2
	Final result	Day 2	Day 2
	Presumptive positive or positive results		
	Sampling, analysis	Day 0	Day 0
	Enumeration	Day 2	Day 2
	Latex test	/	Day 2 (Latex and PCR)
	Confirmatory tests	Day 5 - Day 6	/
Common step with the reference method	Final result		
	Sampling		

The results are obtained in 2 days when typical colonies are observed on the plates using the RAPID'Campylobacter method while 5 to 6 days are required using the ISO method

3.3 Inter-laboratory study

The inter-laboratory study is a study performed by multiple laboratories testing identical samples at the same time, the results of which are used to estimate alternative-method performance parameters.

The results of the inter-laboratory study run in 2014 were interpreted according to the EN ISO 16140-2:2016 standard using the Excel spread sheet available at <http://standards.iso.org/iso/16140> (AP Calculation tool ILS (clause 6.2.3 Calculation summary and interpretations of data) ver 14.03.2016).

3.3.1 Study organization

Samples were sent to 21 laboratories.

Minced poultry meat samples were inoculated with *Campylobacter jejuni* Ad 1000, isolated from poultry. The samples were packaged in vacuum conditions, in order to ensure the targeted strain viability and recovery by the tested methods.

Inoculation levels targeted were:

- Level 0: <10 CFU/ml,
- Level 1: 100 – 1 000 CFU/ml,
- Level 2: 1 000 – 10 000 CFU/ml,
- Level 3: 10 000 – 100 000 CFU/ml.

Each laboratory received eight samples of 10 g, i.e. two samples per inoculation level. Furthermore, one non-inoculated sample was added to the package for total viable count microflora enumeration by the ISO 4833 method.

Blind coded samples (code is only known by the expert laboratory) were placed in isothermal boxes, which contained cooling blocks, and express-shipped to the different laboratories.

A temperature control flask containing temperature register was added to the package in order to register temperature profile during transport and package delivery.

Samples were shipped in 48 h to laboratories of the collaborative study. Sample temperature was lower or equal to 8.4°C during transport, and between 0°C – 8.4°C at arrival.

Collaborative study laboratories and the expert laboratory carried out the analyses with the alternative and reference methods.

In order to evaluate the used *Campylobacter jejuni* strain variability during transport, *Campylobacter* enumerations were performed at different time, i.e. inoculation time, after 48 h of storage at 5°C ± 3°C.

3.3.2 Experimental parameters controls

3.3.2.1 Strain stability during transport

In order to evaluate the *Campylobacter jejuni* Ad 1000 strain viability during transport, bacterial count of samples were checked at different times, i.e. inoculation time, after 48 h of storage at $5^{\circ}\text{C} \pm 3^{\circ}\text{C}$.

Six samples (3 contamination levels x 2 samples) were enumerated. The results are reported in Table 10.

Table 10 – *Campylobacter* count with ISO/TS 10272-2 (in CFU/g)

Day of analysis	Inoculation level	<i>Campylobacter</i> enumeration (CFU/g)				Aerobic mesophilic numeration (CFU/g)	
		Reference method		Alternative method			
		Replicate1	Replicate2	Replicate1	Replicate2		
Day 0	1	1 400	1 400	1 300	1 400	ISO 4833	
	2	13 000	16 000	13 000	9 200		
	3	95 000	130 0000	75 000	52 000		
Day 1	1	1 000	1 300	1 100	890	1.4 10^5	
	2	5 200	3 800	6 200	8 200		
	3	71 000	40 000	56 000	160 000		
Day 2	1	9 00	1 200	730	790	2.4 10^6	
	2	7 400	6 300	8 500	2 500		
	3	7 800	40 000	70 000	110 000		

No evolution of the inoculated strain was observed between Day 0 and Day 2.

3.3.3 Logistic conditions

The temperatures measured at reception by the Labs, the temperatures registered by the thermo-probe, and the receipt dates are given in Table 11.

Table 11 - Sample temperatures at receipt

Laboratories	Temperature measured by the probe (°C)	Temperature measured at receipt (°C)	Receipt date and time	
A	3.0	3.6	Day 1	15H30
B	0.5	2.7	Day 1	11H30
C	1.5	Not communicated	Day 1	14H00
D	2.0	3.5	Day 1	11H50
E	2.5	4.0	Day 1	11H10
F	2.5	9.0	Day 1	10H45
G	1.5	3.0	Day 1	16H00
H	2.0	4.3	Day 1	11H40
J	0.5	3.0	Day 1	11H30
K	2.5	8.1	Day 1	09H56
L	1.5	5.9	Day 1	13H00
M	1.0	5.5	Day 1	13H00
N	1.5	4.3	Day 1	12H40
O	2.0	?	Day 1	12H05
P	1.5	5.2	Day 1	10H15
Q	1.5	3.0	Day 1	11H30
R	1.5	3.8	Day 1	11H00
S	2.3	4.3	Day 1	12H30
T	2.5	Not communicated	Day 1	11H00
U	1.5	Not communicated	Day 1	15H33
V	8.0	9.4	Day 1	17H34 ⁽¹⁾

Even if some labs measured a temperature at receipt above 8.4°C, all the measured temperatures by the probes were correct.

¹ Received at Day 2 at 10 h 00 in the lab.

3.3.4 Result analysis

The raw data are given in **Appendix 9**.

3.3.4.1 Results obtained by the expert Lab.

The results obtained by the expert Lab. are the following (See Table 12).

Table 12 – Results obtained by the expert Lab.

Level	Reference method (CFU/g)	Alternative method (CFU/g)
		40 - 48 h
L0	900 / 1 200	730 / 790
L1	7 400 / 6 300	8 500 / 2 500
L2	7 800 / 40 000	70 000 / 110 000

3.3.4.2 Results obtained by the collaborators

Samples were sent to 21 collaborators.

Mesophilic aerobic microflora

Depending on the Lab results, the enumeration levels varied from $5.3 \cdot 10^5$ to $7.3 \cdot 10^8$ CFU/g.

Campylobacter spp. enumeration

Some problems were encountered during the ring trial, they are listed below:

- Lab A The protocol for the preparation of the RAPID'Campylobacter plates was not respected. *This lab was not retained for interpretation.*
- Lab C The RAPID'Campylobacter plates for samples C1, C2, C3 and C4 were incubated in the same jar; no colony was enumerated on the plates after 24 h incubation time for these samples only. Bad incubation conditions are suspected. *This lab was not retained for interpretation.*

- Lab O This lab didn't realize RAPID'Campylobacter enumeration after 44 ± 4 h incubation and didn't follow the instructions to run correctly the confirmatory tests of both tested methods, i.e. the reference and the alternative methods). *This lab was not retained for interpretation.*
- Lab P This lab mentioned a lack of microaerobic conditions during the incubation step. *This lab was not retained for interpretation.*
- Lab R Lab R didn't provide results; the RAPID'Campylobacter media was not prepared in good conditions and no colony was numerated on the plates.
- Lab S This lab didn't incubate the RAPID'Campylobacter plates in microaerobic conditions for the first 4 h of the required incubation time. *This lab was not retained for interpretation.*

A summary of the test results is given in the following tables (in CFU/g and log CFU/g).

Table 13 – Results synthesis (CFU/g)

15 Labs, 44 h ± 4 h incubation time																
Labs	Level 0				Level 1				Level 2				Level 3			
	Reference method		Alternative method 44 h ± 4 h		Reference method		Alternative method 44 h ± 4 h		Reference method		Alternative method 44 h ± 4 h		Reference method		Alternative method 44 h ± 4 h	
B	<10	<10	<10	<10	1200	1500	1300	1600	7300	12000	8500	11000	100000	100000	54000	85000
D	<10	<10	<10	<10	870	1000	460	690	9700	8700	8400	6600	81000	82000	76000	76000
E	<10	<10	<10	<10	980	610	1100	860	5900	5600	1700	7200	23000	26000	15000	16000
F	<10	<10	<10	<10	640	760	170	250	2500	6500	1400	4800	19000	31000	11000	12000
G	<10	<10	<10	<10	680	730	160	260	7700	6000	2500	3400	34000	25000	11000	9100
H	<10	<10	<10	<10	1100	790	620	750	4300	9400	6900	7400	75000	100000	41000	41000
J	<10	<10	<10	<10	910	740	660	570	4900	4100	1400	1700	14000	51000	13000	34000
K	<10	<10	<10	<10	1300	1400	400	490	15000	15000	8200	6800	130000	110000	69000	47000
L	<10	<10	<10	<10	2500	3100	850	1200	7100	7200	1600	1700	99000	81000	15000	20000
M	<10	<10	<10	<10	130	160	230	270	780	1500	1500	4200	7800	3100	6200	4600
N	<10	<10	<10	<10	250	860	350	790	2700	5600	4800	1800	4200	41000	9600	20000
Q	<10	<10	<10	<10	1200	1100	660	640	7600	11000	5100	4300	93000	88000	47000	36000
T	<10	<10	<10	<10	1800	1500	1700	2700	8400	7700	7500	6600	60000	100000	70000	95000
U	<10	<10	<10	<10	1000	1000	810	550	11000	15000	5700	5500	180000	130000	70000	65000
V	<10	<10	<10	<10	1200	960	660	750	5000	8100	4300	1800	99000	50000	25000	78000

Table 14 – Results summary (log CFU/g)

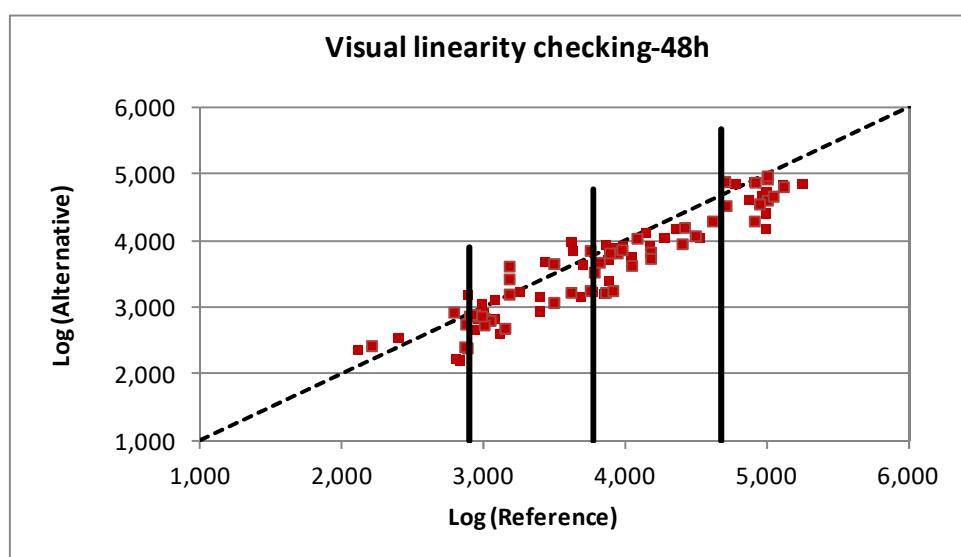
15 Labs, 44 h ± 4 h incubation time																
Labs	Level 0				Level 1				Level 2				Level 3			
	Reference method		Alternative method 44 h ± 4 h		Reference method		Alternative method 44 h ± 4 h		Reference method		Alternative method 44 h ± 4 h		Reference method		Alternative method 44 h ± 4 h	
B	<1.00	<1.00	<1.00	<1.00	3.079	3.176	3.114	3.204	3.863	4.079	3.929	4.041	5.000	5.000	4.732	4.929
D	<1.00	<1.00	<1.00	<1.00	2.940	2.785	2.663	2.839	3.987	3.940	3.924	3.820	4.908	4.914	4.881	4.881
E	<1.00	<1.00	<1.00	<1.00	2.991	2.881	3.041	2.934	3.771	3.748	3.230	3.857	4.362	4.415	4.176	4.204
F	<1.00	<1.00	<1.00	<1.00	2.833	2.863	2.230	2.398	3.398	3.813	3.146	3.681	4.279	4.491	4.041	4.079
G	<1.00	<1.00	<1.00	<1.00	3.041	2.898	2.204	2.415	3.886	3.778	3.398	3.531	4.531	4.398	4.041	3.959
H	<1.00	<1.00	<1.00	<1.00	3.041	2.898	2.792	2.875	3.633	3.973	3.839	3.869	4.875	5.000	4.613	4.613
J	<1.00	<1.00	<1.00	<1.00	2.959	2.869	2.820	2.756	3.690	3.613	3.146	3.230	4.146	4.708	4.114	4.531
K	<1.00	<1.00	<1.00	<1.00	3.114	3.146	2.602	2.690	4.176	4.176	3.914	3.833	5.114	5.041	4.839	4.672
L	<1.00	<1.00	<1.00	<1.00	3.398	3.491	2.929	3.079	3.851	3.857	3.204	3.230	4.996	4.908	4.176	4.301
M	<1.00	<1.00	<1.00	<1.00	2.114	2.204	2.362	2.431	2.892	3.176	3.176	3.623	3.892	3.491	3.792	3.663
N	<1.00	<1.00	<1.00	<1.00	2.398	2.934	2.544	2.898	3.431	3.748	3.681	3.255	3.623	4.613	3.982	4.301
Q	<1.00	<1.00	<1.00	<1.00	3.079	3.041	2.820	2.806	3.881	4.041	3.708	3.633	4.968	4.944	4.672	4.556
T	<1.00	<1.00	<1.00	<1.00	3.255	3.176	3.230	3.431	3.924	3.886	3.875	3.820	4.778	5.000	4.845	4.978
U	<1.00	<1.00	<1.00	<1.00	3.000	3.000	2.908	2.740	4.041	4.176	3.756	3.740	5.255	5.114	4.845	4.813

3.3.5 Calculation and interpretation

3.3.5.1 Visual linearity checking

The figure 8 shows the data points after \log_{10} transformation. The visual inspection shows that the alternative method gives results, which are proportional to those of the reference method. Nonetheless, note that the three different inoculation levels are not clearly distinguishable on the plots, indicating that the target inoculation levels were difficult to achieve. This is most likely due to the difficulty to keep viable *Campylobacter* spp. throughout transport.

Figure 8 - Visual linearity checking



3.3.5.2 Accuracy profile calculation

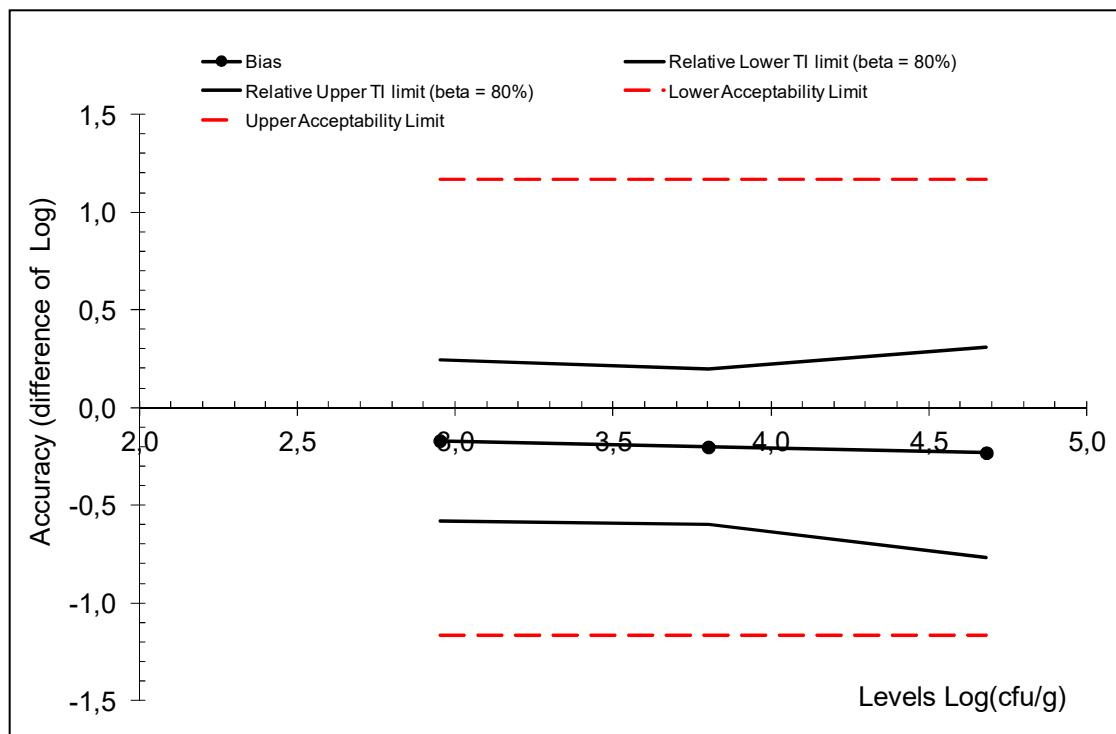
Statistical calculations were done according to the Excel spreadsheet available on <http://standards.iso.org/ISO/16140>. A summary of the statistical test is provided in Table 15.

Table 15 - Summary of statistical tests

40 - 48 h			
Accuracy profile	0.5		
Study Name	RAPID'Campylobacter		
Date	2014		
Coordinator	ADRIA Développement		
Tolerance probability (beta)	80%	80%	80%
Acceptability limit in log (lambda)	1,16	1,16	1,16
Alternative method			
Levels	Low	Medium	High
Target value	2,951	3,801	4,682
Number of participants (K)	15	15	15
Average for alternative method	2,782	3,599	4,451
Repeatability standard deviation (sr)	0,110	0,206	0,148
Between-labs standard deviation (sL)	0,277	0,208	0,360
Reproducibility standard deviation (sR)	0,298	0,293	0,390
Corrected number of dof	16,058	22,432	16,181
Coverage factor	1,377	1,353	1,377
Interpolated Student t	1,337	1,320	1,336
Tolerance interval standard deviation	0,3072	0,3000	0,4015
Lower TI limit	2,371	3,203	3,914
Upper TI limit	3,192	3,996	4,987
Bias	-0,169	-0,202	-0,231
Relative Lower TI limit (beta = 80%)	-0,580	-0,598	-0,768
Relative Upper TI limit (beta = 80%)	0,241	0,194	0,305
Lower Acceptability Limit	-1,16	-1,16	-1,16
Upper Acceptability Limit	1,16	1,16	1,16
New acceptability limits may be based on reference method pooled variance			
Pooled repro standard dev of reference	0,353		

Application of clause 6.2.3
Step 8: If any of the values
for the β -ETI fall outside the

These values are collected in a graphical representation together with the acceptability limits (AL). This representation is given Figure 9.

Figure 9 - Accuracy profile

It is observed that for all the levels, the tolerance interval limits of the alternative method are within the acceptable limits fixed at $\pm 1.16 \log \text{CFU/g}$ for 40 - 48 h incubation time.

The results obtained with the alternative method are not statically different than those obtained with the reference method.

3.3.5.3 Conclusion

The alternative method is equivalent to the reference method.

3.4 General conclusion

The observed data and interpretation confirm the performances of the alternative method:

- 156 samples were tested in the relative trueness study, which clearly satisfied the required criteria for quantitative method comparison per ISO 16140-2 for an incubation time of $44\text{ h} \pm 4\text{ h}$. This study confirms as well the possibility to store the plates for 72 h at $5^\circ\text{C} \pm 3^\circ\text{C}$ before enumeration.
- The observed profiles are in most of the cases comprised within the acceptability limits.
- The inclusivity and exclusivity testing shows satisfying results.
- The quality assurance parameters were verified (i.e. targeted levels, strain stability, logistic conditions, analyses), confirming that the inter-laboratory study was conducted in appropriate conditions.
- For the inter-laboratory study, the data interpretations were done according to the EN ISO 16140-2:2016. For the three contamination levels, the alternative method is accepted as equivalent to the reference method.

Based on the results obtained for the method comparison study and the inter-laboratory study, the RAPID'Campylobacter method is considered equivalent to the reference method for $44\text{ h} \pm 4\text{ h}$ incubation time and after plate storage for 72 h at $5^\circ\text{C} \pm 3^\circ\text{C}$.

Quimper, 28 December 2021

Maryse RANNOU

Project Manager

Validation of Alternative methods

Food Safety & Quality



I hereby attest to the validation of the verification of the conformity of the report (opinion and interpretation).

**Appendix 1 – Flow diagram of the alternative method:
RAPID'Campylobacter**

Meat and waste samples: 10 g test sample + 90 ml diluent according to ISO 6887 parts

Swabs samples: swab + 10 ml diluent according to ISO 6887 parts



Decimal dilutions in 9 ml peptone-salt tubes



Initial suspension:

1 ml onto 3 RAPID'Campylobacter plates ø 90 mm

or

0.1 ml onto 1 RAPID'Campylobacter plate ø 90 mm

Decimal dilutions:

0.1 ml onto 1 RAPID'Campylobacter plate ø 90 mm



Incubation in microaerobic condition at 41.5°C ± 1°C for 44 h ± 4 h



Characteristic colonies count



Campylobacter confirm latex
or PCR test on 1 of the observed
characteristic colony*

ISO 10272-2 confirmatory tests on
5 colonies per dilution
(including the colony tested by PCR
and latex tests)



Purification on Columbia Blood agar for:

- Microscopy (morphology and mobility)
- Oxidase test
- Aerobic growth at 25,0°C

*During the validation study, the same colony was tested by both confirmation procedures.

During the method comparison study, the observed characteristic colonies were also confirmed with the confirmatory tests of the reference method (ISO 10272-2) after a purification step on Columbia agar.

Appendix 2 – Flow diagram of the reference methods: ISO/TS 10272-2:2006 (initial validation) and ISO 10272-2:2017 (renewal study)

**ISO/TS 10272-2:2006 horizontal method for detection and enumeration
of *Campylobacter* spp. Part 2: colony count technique
(used for the initial validation study)**

Meat and waste samples: 10 g test sample + 90 ml peptone-salt
Swabs samples: swab + 90 ml peptone-salt



Decimal dilutions in 9 ml peptone-salt tubes



1 ml on 3 mCCDA plates (for low contamination level)
Or 0.1 ml on mCCDA plates per dilution



Incubation in microaerobic conditions
40 - 48 h at 41.5°C ± 1°C



Characteristic colonies count



Purification on Columbia Blood agar for:
- Microscopy (morphology and mobility)
- Oxidase test
- Aerobic growth at 41.5°C
- Microaerobic growth at 25°C

ISO 10272-2:2017 - Microbiology of the food chain - Horizontal method for detection and enumeration of *Campylobacter* spp. - Part 2: Colony-count technique
(used for the renewal validation study)

Test portion: x g + xml + 9x g or 9 x ml
↓
Further decimal dilution series
↓
Surface inoculation of mCCD Agar (spreading method)
0.1 ml on 1 plate or 1 ml on 3 plates x 2 (estimation of low numbers)
↓
Incubation in a microaerobic atmosphere
at 41.5°C ± 1°C for 44 h ± 4 h
↓
Enumeration of characteristic colonies
(greyish, often with a metallic sheen, flat and moist)
↓
Confirmation
↓
Streak 5 typical colonies onto non-selective blood agar plate
(e.g. Columbia Blood agar)
↓
Incubation in a microaerobic atmosphere
at 41.5°C ± 1°C for 24 h to 48 h
↓
Examine:
- Morphology
- Motility
- Aerobic growth at 25°C
- Presence of oxidase activity

Appendix 3 – Artificial contaminations of samples

Date	Sample N°	Product (French name)	Product	Artificial contaminations (seeding protocol)				Category	Type
				Strain	Origin	Storage	Injury measurement (Columbia RAPID'Campylobacter)		
2013	4050	Foie gras	Cooked duck liver (foie gras)	C. col iAd1125	Chicken	Spiking-12d / 4°C	0,51	2	c
2013	4051	Escalope de dinde milanaise	Cooked meat turkey	C. coli Ad1125	Chicken	Spiking-12d / 4°C	0,51	2	c
2013	4052	Filet poulet cuit	Cooked meat chicken	C. jejuni Ad1000	Turkey neck skin	Spiking-12d / 4°C	0,51	2	c
2013	4053	Aiguillettes poulet au paprika	Cooked meat chicken	C. jejuni Ad1000	Turkey neck skin	Spiking-12d / 4°C	0,51	2	c
2013	4217	Prélèvement carcasse porc (avant éviscération)	Pork carcass	C. coli Ad1481	Pork carcass	Spiking-6d / 4°C	0,71	1	b
2013	4218	Chiffonnette Tablier (atelier porc)	Swab (pork industry)	C. coli Ad1481	Pork carcass	Spiking-6d / 4°C	0,71	3	b
2013	4219	Chiffonnette pomme jet (atelier porc)	Swab (pork industry)	C. coli Ad1478	Pork carcass	Spiking-6d / 4°C	0,49	3	b
2013	4220	Eau bac d'échaudage (atelier porc)	Water process (pork industry)	C. coli Ad1478	Pork carcass	Spiking-6d / 4°C	0,49	3	c
2013	4221	Déchets parage (atelier porc)	Pork wastes	C. coli Ad1480	Pork carcass	Spiking-6d / 4°C	0,51	3	a
2013	4222	Terrine de volaille	Processed poultry meat product	C. coli Ad1125	Chicken	Spiking-18d / 4°C	1,10	2	c
2013	4223	Mousse de canard	Processed duck meat product	C. coli Ad1124	Chicken meat	Spiking-18d / 4°C	1,97	2	c
2013	4224	Blanc de poulet cuit	Processed chicken meat product	C. jejuni Ad1000	Turkey neck skin	Spiking-18d / 4°C	1,26	2	c
2013	4225	Roti dinde aux herbes	Processed turkey meat product	C. jejuni Ad1013	Chicken neck skin	Spiking-18d / 4°C	1,67	2	c
2013	4324	Blanc de poulet cuit	Processed chicken meat product	C. coli Ad1006	Chicken skin	Spiking-24d / 4°C	1,81	2	c
2013	4325	Dés de poulet	Processed chicken meat product	C. coli Ad1017	Turkey meat	Spiking-24d / 4°C	1,47	2	c
2013	4326	Mousse de canard	Processed duck meat product	C. coli Ad1018	Chicken leg	Spiking-24d / 4°C	1,55	2	c
2013	4327	Jambon de dinde	Processed turkey meat product	C. coli Ad1018	Chicken leg	Spiking-24d / 4°C	1,55	2	c
2013	4328	Pâté de volaille	Processed poultry meat product	C. coli Ad1018	Chicken leg	Spiking-24d / 4°C	1,55	2	c
2013	4329	Eau bac échaudage (porc)	Water process (pork industry)	C. coli Ad1479	Pork carcass	Spiking-14d / 4°C	0,56	3	c
2013	4330	Eau de process (porc)	Water process (pork industry)	C. coli Ad1481	Pork carcass	Spiking-14d / 4°C	0,86	3	c

Date	Sample N°	Product (French name)	Product	Artificial contaminations (seeding protocol)				Category	Type
				Strain	Origin	Storage	Injury measurement (Columbia RAPID'Campylobacter)		
2013	4331	Lingette pomme jet surpressé (porc)	Swab (pork industry)	C. coli Ad1478	Pork carcass	Spiking-14d / 4°C	0,70	3	b
2013	4332	Prélèvement carcasse porc	Swab (pork industry)	C. coli Ad1123	Meat	Spiking-14d / 4°C	0,68	1	b
2013	4503	Haché de volaille	Processed poultry meat product	C. coli Ad1087	Chicken skin	Spiking-2d / 4°C	0,35	2	c
2013	4504	Terrine de poulet	Processed chicken meat product	C. coli Ad1087	Turkey skin	Spiking-4d / 4°C	0,48	2	c
2013	4505	Haché de poulet grillé	Processed chicken meat product	C. coli Ad1087	Turkey skin	Spiking-4d / 4°C	0,48	2	c
2013	4506	Rôti dinde cuit	Processed turkey meat product	C. jejuni Ad1089	Turkey neck skin	Spiking-4d / 4°C	0,37	2	c
2013	4507	Blanc de poulet cuit	Processed chicken meat product	C. jejuni Ad1088	Turkey neck skin	Spiking-4d / 4°C	0,41	2	c
2013	4508	Blanc de dinde cuit	Processed turkey meat product	C. jejuni Ad1084	Turkey neck skin	Spiking-4d / 4°C	0,39	2	c
2013	4672	Poitrine de porc sous film	Fresh meat pork	C. coli Ad1481	Pork carcass	Spiking-16d / 4°C	0,90	1	a
2013	4673	Côtes de porc sous film	Fresh meat pork	C. coli Ad1480	Pork carcass	Spiking-16d / 4°C	0,47	1	a
2013	4674	Côte de porc bio sous MAP	Fresh meat pork	C. coli Ad1478	Pork carcass	Spiking-16d / 4°C	0,70	1	a
2013	4675	Crépinettes marinées vin blanc oignons sous MAP	Processed meat pork	C. coli Ad1477	Pork carcass	Spiking-16d / 4°C	0,29	1	c
2013	4676	Palet de porc nature sous MAP	Processed meat pork	C. coli Ad1123	Meat	Spiking-16d / 4°C	0,69	1	c
2013	4677	Palet de porc tomate basilic sous MAP	Processed meat pork	C. coli Ad1481	Pork carcass	Spiking-16d / 4°C	0,90	1	c
2013	4678	Tartare bœuf sous vide	Raw beef meat	C. coli Ad1480	Pork carcass	Spiking-16d / 4°C	0,47	1	a
2013	4679	Carpaccio bœuf olives sous vide	Processed beef meat	C. coli Ad1478	Pork carcass	Spiking-16d / 4°C	0,70	1	c
2013	4680	Rumsteak échalote sous MAP	Processed beef meat	C. coli Ad1477	Pork carcass	Spiking-16d / 4°C	0,29	1	c
2013	4681	Carpaccio bœuf olives basilic sous vide	Processed beef meat	C. coli Ad1123	Meat	Spiking-16d / 4°C	0,69	1	c
2013	4793	Carpaccio pur bœuf sous MAP	Processed beef meat	C. coli Ad1123	Meat	Spiking-9d / 4°C	0,63	1	c
2013	4794	Pavés de bœuf aux 3 poivres sous vide	Processed beef meat	C. coli Ad1479	Pork carcass	Spiking-9d / 4°C	0,39	1	c

Date	Sample N°	Product (French name)	Product	Artificial contaminations (seeding protocol)				Category	Type
				Strain	Origin	Storage	Injury measurement (Columbia RAPID'Campylobacter)		
2013	4795	Haché de veau sous MAP	Processed veal meat	C. coli Ad1477	Pork carcass	Spiking-9d / 4°C	0,30	1	c
2013	4796	Escalope de veau marinée sous MAP	Processed veal meat	C. coli Ad1480	Pork carcass	Spiking-9d / 4°C	0,41	1	c
2013	4797	Gigot d'agneau sous air	Lamb meat	C. coli Ad1477	Pork carcass	Spiking-9d / 4°C	0,30	1	a
2013	4849	Saucisses de porc épicées sous MAP	Pork sausage with spices	C. coli Ad1121	Pork feces	Spiking-7d / 4°C	0,39	1	c
2013	4850	Saucisses de porc aux herbes sous MAP	Pork sausage with aromatic herbs	C. coli Ad1121	Pork feces	Spiking-7d / 4°C	0,39	1	c
2013	4851	Saucisses de porc aux oignons sous MAP	Pork sausage with onion	C. coli Ad1122	Pork feces	Spiking-7d / 4°C	0,48	1	c
2013	4852	Collier d'agneau sous film	Lamb meat	C. coli Ad1121	Pork feces	Spiking-7d / 4°C	0,39	1	a
2013	4853	Côtes d'agneau sous film	Lamb meat	C. coli Ad1122	Pork feces	Spiking-7d / 4°C	0,48	1	a
2013	4854	Jarret d'agneau sous film	Lamb meat	C. coli Ad1122	Pork feces	Spiking-7d / 4°C	0,48	1	a
2013	4855	Filet canard sous vide	Duck filet	C. jejuni Ad1078	Poultry	Spiking-7d / 4°C	0,34	2	a
2013	4856	Cuisse de canard sous vide	Duck thigh	C. jejuni Ad1016	Poultry	Spiking-7d / 4°C	0,37	2	a
2013	4857	Magret de canard sous vide	Duck meat	C. coli Ad1009	Poultry	Spiking-7d / 4°C	0,38	2	a
2013	4858	Filet de canard sous vide	Duck filet	C. jejuni Ad1023	Poultry	Spiking-7d / 4°C	0,46	2	a
2013	4926	Eau process plumeuse	Process water (poultry industry)	C. coli Ad1121	Pork feces	Spiking-16d / 4°C	0,51	3	c
2013	4927	Eau process échaudage	Process water (poultry industry)	C. coli Ad1122	Pork feces	Spiking-16d / 4°C	0,46	3	c
2018	2482	Steak à griller de bœuf	Beef trim	C. coli Ad1997	Beef slaughterhouse	Seeding-48h 5±3°C vacuum packaged	/	1	a
2018	2483	Pavés de rumsteck marinés	Marinated beef trim	C. coli Ad1997	Beef slaughterhouse	Seeding-48h 5±3°C vacuum packaged	/	1	c
2018	2484	Côtes de porcs à la mexicaine	Marinated pork meat	C. coli Ad1972	Pork	Seeding-48h 5±3°C vacuum packaged	/	1	c
2018	2485	Déchets de volaille	Poultry wastes	C. coli Ad1893	Guinea wastes	Seeding-48h 5±3°C vacuum packaged	/	3	a
2018	2486	Déchets de porc	Pork wastes	C. coli Ad1889	Pork carcass	Seeding-48h 5±3°C vacuum packaged	/	3	a

Date	Sample N°	Product (French name)	Product	Artificial contaminations (seeding protocol)				Category	Type
				Strain	Origin	Storage	Injury measurement (Columbia RAPID'Campylobacter)		
2018	2487	Déchets de bœuf	Beef wastes	C. coli Ad1997	Beef slaughterhouse	Seeding-48h 5±3°C vacuum packaged	/	3	a
2018	2967	Prélèvement carcasse de bœuf	Sample beef carcass	C. coli Ad1997	Beef slaughterhouse	Seeding-48h 5±3°C vacuum packaged	/	1	b
2018	2968	Prélèvement carcasse de bœuf	Sample beef carcass	C. coli Ad1997	Beef slaughterhouse	Seeding-48h 5±3°C vacuum packaged	/	1	b
2018	2969	Prélèvement carcasse de bœuf	Sample beef carcass	C. coli Ad1123	Meat	Seeding-48h 5±3°C vacuum packaged	/	1	b
2018	2970	Prélèvement carcasse de bœuf	Sample beef carcass	C. coli Ad1123	Meat	Seeding-48h 5±3°C vacuum packaged	/	1	b
2018	2971	Prélèvement carcasse de porc	Sample pork carcass	C. coli Ad1964	Pig	Seeding-48h 5±3°C vacuum packaged	/	1	b
2018	2972	Prélèvement carcasse de porc	Sample pork carcass	C. coli Ad1480	Pork carcass	Seeding-48h 5±3°C vacuum packaged	/	1	b
2018	2973	Peau de cou	Neck skin	C.lari Ad1067	Turkey neck skin	Seeding-48h 5±3°C vacuum packaged	/	2	b
2018	2974	Carpaccio marinade	Marinated beef meat	C. coli Ad1997	Beef slaughterhouse	Seeding-48h 5±3°C vacuum packaged	/	1	c
2018	3332	Viande bovine steak	Beef trim	C. coli Ad1997	Beef slaughterhouse	Seeding-48h 5±3°C vacuum packaged	/	1	a
2018	3333	Côte de porc dans l'échine	Pork trim	C. coli Ad1968	Pork	Seeding-48h 5±3°C vacuum packaged	/	1	a
2018	3334	Emincés de porc indienne	Marinated pork meat	C. coli Ad1959	Pork	Seeding-48h 5±3°C vacuum packaged	/	1	c
2018	3335	Côte de porc marinées	Marinated pork meat	C. coli Ad1964	Pork	Seeding-48h 5±3°C vacuum packaged	/	1	c
2018	3336	Carpaccio mariné au pesto rouge	Marinated beef meat	C. coli Ad1997	Beef slaughterhouse	Seeding-48h 5±3°C vacuum packaged	/	1	c

Appendix 4 - Relative trueness study: raw data

ND: enumeration impossible

MEAT AND MEAT PRODUCTS (except poultry)																											Category	Type			
Date	Sample N°	Product French name	Product	Reference method: ISO 10272-2*								Alternative method: RAPID'Campylobacter												Category	Type						
				Dilution	CFU/plate		CFU confirmed		CFU/g		log CFU/g		Mean	Dilution	CFU/plate	Confirmatory tests by PCR	Confirmatory tests by Campylobacter Confirm Latex	Confirmatory tests by ISO tests	CFU/plate confirmed	CFU/g	log CFU/g		Mean								
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2		Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2								
2013	3136	Steak haché de bœuf	Ground beef	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	<1,00	1,00	10	0	0	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	1	a
				100	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	<1,00	1,00	100	0	0	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	1	c
2013	3137	Carpaccio bœuf	Raw processed beef meat	10	0	0	0	0								100	0	0	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	1	c
				100	0	0	0	0								100	0	0	/	/	/	/	/	0	0						
2013	3138	Côte de porc	Raw pork meat pork	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	<1,00	1,00	10	0	0	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	1	a
				100	0	0	0	0								100	0	0	/	/	/	/	/	0	0						
2013	3139	Côte d'agneau	Raw lamb meat	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	<1,00	1,00	10	0	0	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	1	a
				100	0	0	0	0								100	0	0	/	/	/	/	/	0	0						
2013	3140	Chair à saucisse aux épices	Sausage	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	<1,00	1,00	10	0	0	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	1	c
				100	0	0	0	0								100	0	0	/	/	/	/	/	0	0						
2013	4216	Prélèvement carcasse porc (après éviscération)	Pork carcass	10	6	10	6	10	60	100	1,78	2,00	1,89	2,00	1,89	10	4	4	+(1)</												

MEAT AND MEAT PRODUCTS (except poultry)

Date	Sample N°	Product French name	Product	Reference method: ISO 10272-2*								Alternative method: RAPID'Campylobacter																Category	Type		
				Dilution	CFU/plate		CFU confirmed		CFU/g		log CFU/g		Mean	Dilution	CFU/plate		Confirmatory tests by PCR		Confirmatory tests by Campylobacter Confirm Latex		Confirmatory tests by ISO tests		CFU/plate confirmed		CFU/g		log CFU/g				
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2					
2013	4794	Pavés de bœuf aux 3 poivres sous vide	Processed beef meat	10	>450	>450	/	/	16000 N'	8500 N'	4,20 N'	3,93 N'	4,07 N'	10	ill	ill	/	/	/	/	/	/	/	/	7400 N'	3500 N'	3,87 N'	3,54 N'	3,71 N'	1 c	
				100	156	85	156	85						100	74	35	+ (1)	+ (1)	+ (1)	+ (1)	+ (5)	+ (5)	74	35	6900 5600	3,84 3,75	3,84 3,75	3,79	1 c		
2013	4795	Haché de veau sous MAP	Processed veal meat	1000	5	13	5	13	5000 N'	14000 N'	3,70 N'	4,15 N'	3,92	100	68	53	+ (1)	+ (1)	+ (1)	+ (1)	+ (5)	+ (5)	68	53							
				10000	2	2	/	2						1000	8	9	+ (1)	+ (1)	+ (1)	+ (1)	+ (5)	+ (5)	8	9							
2013	4796	Escalope de veau marinée sous MAP	Processed veal meat	10	2	2	2	2	20	20	1,30*	1,30*	1,30*	10	0	0	/	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	1,00	1 c	
				100	0	1	0	/						100	0	0	/	/	/	/	/	/	0	0							
2013	4797	Gigot d'agneau sous air	Lamb meat	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	1,00	1 a	
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0							
2013	4849	Saucisses de porc épicees sous MAP	Pork sausage with spices	100	95	112	95	112	9900	12000	4,00	4,08	4,04	100	54	22	/	/	+ (1)	+ (1)	+ (5)	+ (5)	54	22	7000	2800	3,85	3,45	3,65	1 c	
				1000	14	15	14	15						1000	23	9	/	/	+ (1)	+ (1)	+ (5)	+ (5)	23	9							
2013	4850	Saucisses de porc aux herbes sous MAP	Pork sausage with aromatic herbs	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	2	4	+ (1)	+ (1)	+ (1)	+ (1)	+ (2)	+ (4)	2	4	20	40 Ne	1,30*	1,60 Ne	1,45*	1 c	
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0							
2013	4851	Saucisses de porc aux oignons sous MAP	Pork sausage with onion	100	1	2	1	2	1000	2000	3,00*	3,30*	3,15*	100	24	24	/	/	+ (1)	+ (1)	+ (5)	+ (5)	24	24	2500	2400	3,40	3,38	3,39	1 c	
				1000	0	0	0	0						1000	4	2	/	/	+ (1)	+ (1)	+ (4)	+ (2)	4	2							
2013	4852	Collier d'agneau sous film	Lamb meat	10	0	1	0	1	<10	10	<1,00	<1,00	<1,00	10	1	1	+ (1)	+ (1)	+ (1)	+ (1)	+ (1)	+ (1)	1	1	10	10	1,00*	1,00*	1,00*	1 a	
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0							
2013	4853	Côtes d'agneau sous film	Lamb meat	10	3	4	3	4	30	40 Ne	1,48*	1,60 Ne	1,51*	10	13	18	/	/	+ (1)	+ (1)	+ (5)	+ (5)	13	18	130	160	2,11	2,20	2,16	1 a	
				100	1	0	/	0						100	1	0	/	/	+ (1)	+ (1)	/	/	1	0							
2013	4854	Jarret d'agneau sous film	Lamb meat	10	0	0	0	0	<10	10	<1,00	<1,00	<1,00	10	2	0	+ (1)	/	+ (1)	/	+ (2)	/	2	0	20	<10	1,30*	<1,00	<1,15	1 a	
				100	0	0	0	0																							

MEAT AND MEAT PRODUCTS (except poultry)

Date	Sample N°	Product French name	Product	Reference method: ISO 10272-2*								Alternative method: RAPID'Campylobacter												Category	Type						
				Dilution	CFU/plate		CFU confirmed		CFU/g		log CFU/g		Mean	Dilution		CFU/plate		Confirmatory tests by PCR		Confirmatory tests by Campylobacter Confirm Latex		Confirmatory tests by ISO tests		CFU/plate confirmed		CFU/g		log CFU/g		Mean	
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2		Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2				
2018	3332	Viande bovine steak	Beef trim	10	54	/	54	/	560	/	2,75	/	1,15*	10	39	/	+*(1)	/	+w(1)	/	+*(5)	/	39	/	440	/	2,64	/	<1,32	1	a
				100	8	/	8	/						100	9	/	+*(1)	/	+w(1)	/	+*(5)	/	9	/							
2018	3333	Côte de porc dans l'échine	Pork trim	10	0	/	0	/	<10	/	<1,00	/	1,15*	10	1	/	+*(1)	/	+w(1)	/	+*(1)	/	1	/	10	/	1,00*	/	<1,33	1	a
				100	0	/	0	/						100	0	/	/	/	/	/	/	0	/								
2018	3334	Emincés de porc indienne	Marinated pork meat	10	52	/	52	/	510	/	2,71	/	1,15*	10	37	/	+*(1)	/	+*(1)	/	+*(5)	/	37	/	360	/	2,56	/	<1,34	1	c
				100	4	/	4	/						100	2	/	+*(1)	/	+*(1)	/	+*(2)	/	2	/							
2018	3335	Côte de porc marinées	Marinated pork meat	1000	30	/	30	/	31000	/	4,49	/	1,15*	1000	35	/	+*(1)	/	+*(1)	/	+*(5)	/	35	/	35000	/	4,54	/	<1,35	1	c
				10000	4	/	4	/						10000	3	/	+*(1)	/	+*(1)	/	+*(3)	/	3	/							
2018	3336	Carpaccio mariné au pesto rouge	Marinated beef meat	100	22	/	22	/	2000	/	3,30	/	1,15*	100	20	/	+*(1)	/	+*(1)	/	+*(5)	/	20	/	2100	/	3,32	/	<1,36	1	c
				1000	0	/	0	/						1000	3	/	+*(1)	/	+w(1)	/	+*(3)	/	3	/							

POULTRY AND POULTRY PRODUCTS

Date	Sample N°	Product French name	Product	Reference method: ISO 10272-2*								Alternative method: RAPID'Campylobacter												Category	Type						
				Dilution	CFU/plate		CFU confirmed		CFU/g		log CFU/g		Mean	Dilution	CFU/plate		Confirmatory tests by PCR		Confirmatory tests by Campylobacter Confirm Latex		Confirmatory tests by ISO tests		CFU/plate confirmed		CFU/g		log CFU/g				
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2							
2013	3141	Cuisse de poulet avec peau	Chicken leg	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	2	a	
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0							
2013	3181	Escalope poulet	Raw Chicken meat	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	2	a	
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0							
2013	3182	Coquelet	Cockerel	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	2	a	
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0							
2013	3183	Cailles entières	Quail	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	IE	IE	/	/	/	/	/	/	/	/	4000	1600	3,60 N'	3,20 N'	2	a	
				100	0	0	0	0						100	40	16 d	/	+ (1)	+ (1)	+ (1)	+ (1)	+ (1)	40	16							
2013	3184	Ailes de poulet	Chicken wings	10	10	6	10	6	110	60 Ne	2,04	1,78 Ne	1,91	10	5	4	/	+ (1)	+ (1)	+ (1)	+ (1)	+ (1)	5	4	50	40	1,70 Ne	1,60 Ne	2	a	
				100	2	0	2	0						100	0	0	/	/	/	/	/	/	1	1							
2013	3185	Filet de canard	Raw duck meat	10	56	65	56	65	560	690	2,75	2,84	2,79	10	4	7	/	/	+ (1)	+ (1)	+ (1)	+ (1)	4	7	successive dilution inconsistency	successive dilution inconsistency	ND	/ ND	2	a	
				100	6	11	6	11						100	3	5	/	/	+ (1)	+ (1)	+ (1)	+ (1)	3	5							
2013	3186	Manchons de poulet barattés sel fin	Chicken salted meat	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	2	c	
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0							
2013	3187	Manchons de poulet barattés gros sel	Chicken salted meat	10	2	0	1	0	10	<10	1,00*	<1,00	<1,00	10	2	0	+ (1)	/	+ (1)	/	+ (1)	/	2	0	20	<10	1,30*	<1,00	<1,15	2	c
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0							
2013	3188	Manchons de poulet barattés sel ordinaire	Chicken salted meat	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	1	0	/	/	+ (1)	/	+ (1)	/	1	0	10	<10	1,00*	<1,00	<1,00	2	c
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0							
2013	3525	Gésiers de poulet	Chicken gizzard	10	306 d	305 d	0	0	<10	<10	<1,00	<1,00	<1,00	100	37	102	/	/	+ (1)	+ (1)	+ (5)	+ (5)	37	102	4000	9700	3,60	3,99	2	a	
				100	24 d	28 d	0	0						1000	7	5	/	/	+ (1)	+ (1)	+ (5)	+ (5)	7	5							
2013	3526	Peau de cou	Poultry neck skin	10	157	148	157	148	1500	1400	3,18	3,15	3,16	10	36 d	106 d	/	/	+ (1)	+ (1)	+ (5)	+ (5)	36	106	400	1100	2,60	3,04	2,82	2	a
				100	8	4	8	2						100	8	14 d	/	/	+ (1)	+ (1)	+ (5)	+ (5)	8	14							
2013	3527	Carcasse de poule	Chicken carcass	1000	>150	72	>150	72	140000	75000	5,15 N'	4,88	5,01	1000	>150	>150	/	/	/	/	/	/	>150	>150	180000	100000	5,26 N'	5,00 N'	2	b	
				10000	14	10	14	10						10000	18	10	/	/	+ (1)	+ (1)	+ (5)	+ (5)	18	10							
2013	3764	Cuisse de poulet	Chicken leg	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	2	a	

POULTRY AND POULTRY PRODUCTS

Date	Sample N°	Product French name	Product	Reference method: ISO 10272-2*								Alternative method: RAPID'Campylobacter												Category	Type						
				Dilution	CFU/plate		CFU confirmed		CFU/g		log CFU/g		Mean	Dilution	CFU/plate		Confirmatory tests by PCR		Confirmatory tests by Campylobacter Confirm Latex		Confirmatory tests by ISO tests		CFU/plate confirmed		CFU/g		log CFU/g				
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2					
2013	4047	Cuisse pintade	Guinea fowl leg	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	2	a	
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0							
2013	4050	Foie gras	Cooked duck liver (foie gras)	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	2	c	
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0							
2013	4051	Escalope de dinde milanaise	Cooked meat turkey	10	0	2d	0	2	<10	10	<1,00	1,00*	<1,00	10	0	0	/	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	2	c	
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0							
2013	4052	Filet poulet cuit	Cooked meat chicken	10	8	6	8	6	80	60	1,90 Ne	1,78 Ne	1,84 Ne	10	2	1	+ (1)	+ (1)	+ (1)	+ (1)	+ (2)	+ (1)	2	1	20	10	1,30*	1,00*	<1,15	2	c
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0							
2013	4053	Aiguillettes poulet au paprika	Cooked meat chicken	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	2	c	
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0							
2013	4171	Carcasse pintade	Water Guinea fowl carcass	10	2	2	2	2	20	20	1,30*	1,30*	1,30*	10	4	5	/	/	+ (1)	+ (1)	+ (4)	+ (5)	4	5	40 Ne	50 Ne	1,60 Ne	1,70 Ne	2	b	
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0							
2013	4172	Carcasse pintade	Water Guinea fowl carcass	10	3	2	3	2	30	20	1,48*	1,30*	1,39*	10	1	3	/	/	+ (1)	+ (1)	+ (1)	+ (3)	1	3	10	30	1,00*	1,48*	<1,24	2	b
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0							
2013	4173	Gésier poulet	Chicken gizzard	10	18	14	18	14	160	150	2,20	2,18	2,19	10	29	19	/	/	+ (1)	+ (1)	+ (5)	+ (5)	29	19	280	190	2,45	2,28	2,36	2	a
				100	0	2	0	2						100	2	2	/	/	+ (1)	+ (1)	+ (2)	+ (2)	2	2							
2013	4174	Peau cou de poulet	Poultry neck skin	100	32	26	32	26	3600	2700	3,56	3,43	3,49	100	32	468 (-1)	/	/	+ (1)	+ (1)	+ (5)	+ (5)	32	468 (-1)	3100	successive dilution inconsistency	3,49	/	3,49	2	a
				1000	8	4	8	4						1000	2	6 (-2)	/	/	+ (1)	+ (1)	+ (2)	+ (5)	2	6 (-2)							
2013	4175	Peau cou de pintade	Guinea fowl neck skin	10	89	64	89	64	860	580	2,93	2,76	2,85	10	84	70	/	/	+ (1)	+ (1)	+ (5)	+ (5)	84	70	790	660	2,90	2,82	2,86	2	a
				100	6	0	6	0						100	3	2	/	/	+ (1)	+ (1)	+ (3)	+ (2)	3	2							
2013	4222	Terrine de volaille	Processed poultry meat product	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	2	c	
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0							
2013	4223	Mousse de canard	Processed duck meat product	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	2	c	
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0							
2013	4224	Blanc de poulet cuit	Processed chicken meat product	10	8	1	8	1	80	10	1,90	1,00*	1,45*	10	0	0	/	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	2	c	
				100	0	1	0	1						100	0	0	/	/	/	/	/	/	0	0							
2013	4225	Roti dinde aux herbes	Processed turkey meat product	10	3	1	3	1	30	10	1,48*	1,00*	1,24*	10	0	0	/	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	2	c	
				100	0	1	0	1						100	0	0	/	/	/	/	/	/	0	0							
2013	4324	Blanc de poulet cuit	Processed chicken meat product	10	1	2	1	2	10	20	1,00*	1,30*	1,15*	10	0	0	/	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	2	c	
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0							
2013	4325	Dés de poulet	Processed chicken meat product	10	1	0	1	0	10	<10	1,00*	<1,00	<1,00																		

POULTRY AND POULTRY PRODUCTS

Date	Sample N°	Product French name	Product	Reference method: ISO 10272-2*								Alternative method: RAPID'Campylobacter												Category	Type						
				Dilution	CFU/plate		CFU confirmed		CFU/g		log CFU/g		Mean	Dilution	CFU/plate		Confirmatory tests by PCR		Confirmatory tests by Campylobacter Confirm Latex		Confirmatory tests by ISO tests		CFU/plate confirmed		CFU/g		log CFU/g				
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2					
2013	4855	Filet canard sous vide	Duck filet	10	5	11	5	11	50	110	1,70	2,04	1,87	10	8	10	+1)	+1)	+1)	+1)	+5)	+5)	8	10	80	110	1,90	2,04	1,97	2	a
				100	0	1	0	1	Ne	Ne				100	1	2	/	+1)	/	+1)	/	+2)	/	2	Ne						
2013	4856	Cuisse de canard sous vide	Duck thigh	1000	79	66	79	66	77000	62000	4,89	4,79	4,84	1000	18	29	/	/	+1)	+1)	+5)	+5)	18	29	19000	27000	4,28	4,43	4,36	2	a
				10000	6	2	6	2						10000	3	1	/	/	+1)	+1)	+3)	+1)	3	1							
2013	4857	Magret de canard sous vide	Duck meat	1000	25	23	25	23	25000	23000	4,40	4,36	4,38	100	89	99	/	/	+1)	+1)	+5)	+5)	89	99	9400	10000	3,97	4,00	3,99	2	a
				10000	2	2	2	2						1000	14	11	/	/	+1)	+1)	+5)	+5)	14	11							
2013	4858	Filet de canard sous vide	Duck filet	100	5	26	4	26	400	2400	2,60	3,38	2,99	100	44	38	/	/	+1)	+1)	+5)	+5)	44	38	4400	4100	3,64	3,61	3,63	2	a
				1000	2	0	/	0	Ne	Ne				1000	4	7	/	/	+1)	+1)	+4)	+5)	4	7							
2018	2450	Peau de cou de dinde	Turkey neck skin	10	11	/	11	/	120	/	2,08	/	1,15*	10	74	/	+1)	/	+5)	/	+5)	/	74	/	730	/	2,86	/	<1,01	2	b
				100	2	/	2	/						100	6	/	+1)	/	+5)	/	+5)	/	6	/							
2018	2451	Peau de cou de dinde	Turkey neck skin	10	0	/	0	/	100	/	2,00*	/	1,15*	100	10	/	+1)	/	+5)	/	+5)	/	10	/	1200	/	3,08	/	<1,02	2	b
				100	1	/	1	/						1000	3	/	+1)	/	+5)	/	+5)	/	3	/							
2018	2452	Peau de cou de poulet fermier	Chicken neck skin	10	17	/	17	/	160	/	2,20	/	1,15*	10	13	/	+1)	/	+5)	/	+5)	/	13	/	160	/	2,20	/	<1,03	2	b
				100	0	/	0	/						100	4	/	+1)	/	+5)	/	+5)	/	4	/							
2018	2453	Peau de cou de poulet fermier	Chicken neck skin	10	0	/	0	/	<10	/	<1,00	/	1,15*	10	11	/	+1)	/	+5)	/	+5)	/	11	/	110	/	2,04	/	<1,04	2	b
				100	0	/	0	/						100	1	/	+1)	/	+5)	/	+5)	/	1	/							
2018	2454	Peau de cou de poulet fermier	Chicken neck skin	100	26	/	26	/	3000	/	3,48	/	1,15*	100	88	/	+1)	/	+5)	/	+5)	/	88	/	9200	/	3,96	/	<1,05	2	b
				1000	7	/	7	/						1000	13	/	+1)	/	+5)	/	+5)	/	13	/							
2018	2488	Peau de cou de poulet	Poultry neck skin	10	10	/	10	/	91	/	1,96	/	1,15*	10	10	/	+1)	/	+1)	/	+5)	/	10	/	91	/	1,96	/	<1,20	2	b
				100	0	/	0	/						100	0	/	/	/	/	/	/	/	0	/							
2018	2489	Peau de cou de poulet	Poultry neck skin	10	0	/	0	/	<10	/	<1,00	/	1,15*	10	0	/	/	/	/	/	/	/	0	/	<10	/	<1,00	/	<1,21	2	b
				100	0	/	0	/						100	0	/	/	/	/	/	/	/	0	/							
2018	2973	Peau de cou	Neck skin	100	14	/	14	/	1500	/	3,18	/	1,15*	100	10	/	+1)	/	+1)	/	+5)	/	10	/	1000	/	3,00	/	<1,28	2	b
				1000	2	/	2	/						1000	1	/	+1)	/	+1)	/	+1)	/	1	/							

PRODUCTION ENVIRONMENTAL SAMPLES

Date	Sample N°	Product French name	Product	Reference method: ISO 10272-2*								Alternative method: RAPID'Campylobacter												Category	Type					
				Dilution	CFU/plate		CFU confirmed		CFU/g		log CFU/g		Mean	Dilution	CFU		Confirmatory tests by PCR		Confirmatory tests by Campylobacter Confirm Latex		Confirmatory tests by ISO tests		CFU/plate confirmed		CFU/g		log CFU/g			
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2				
2013	3173	Eau caniveau plumerie (atelier dinde)	Water process (turkey industry)	100	IE	IE	<1000	<1000	<3,00	<3,00	<3,00	<3,00	100	107	165	+ (2)	+ (1)	+ (2)	+ (1)	+ (2)	+ (1)	107	165	16000	15000	4,20	4,18	4,19	3 c	
				1000	0	0								1000	66	5	+ (2)	+ (1)	+ (2)	+ (1)	+ (2)	+ (1)	66	5						
2013	3174	Eau bac d'échaudage (atelier dinde)	Water process (turkey industry)	100	0	0	0	0	<100	<100	<2,00	<2,00	<2,00	100	0	0	/	/	/	/	/	0	0	<100	<100	<2,00	<2,00	3 c		
				1000	0	0	0	0						1000	0	0	/	/	/	/	/	0	0							
2013	3175	Eau sol salle lavage (atelier dinde)	Water process (turkey industry)	100	0	0	0	0	<100	<100	<2,00	<2,00	<2,00	100	0	0	/	/	/	/	/	0	0	<100	<100	<2,00	<2,00	3 c		
				1000	0	0	0	0						1000	0	0	/	/	/	/	/	0	0							
2013	3176	Lingettes murs ressuage (atelier dinde)	Swab (turkey industry)	1000	68 d	>150 d	0	/	<1000	<10000	<3,00	<4,00	<3,50	10	0	0	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	3 b		
				10000	17 d	15 d	0	0						100	0	0	/	/	/	/	/	0	0							
2013	3177	Lingettes laveuse externe (atelier dinde)	Swab (turkey industry)	1000	ND		ND		ND		ND	ND	ND	100	95 + μ	71 + μ	- (5)	- (5)	- (5)	- (5)	- (5)	0	0	<100	<100	<2,00	<2,00	3 b		
				10000	ND		ND		ND					1000	0	0	/	/	/	/	/	/	/							
2013	3178	Lingettes plumeuse (atelier dinde)	Swab (turkey industry)	1000	ND		ND		ND		ND	ND	ND	1000	>150	>150	/	/	/	/	/	/	/	<10000	<10000	<4,00	<4,00	3 b		
				10000	ND		ND		ND					10000	29	28	- (5)	- (5)	- (5)	- (5)	- (5)	0	0							
2013	3179	Lingettes sol (atelier dinde)	Swab (turkey industry)	1000	ND		ND		<10000	<10000	<4,00	<4,00	<4,00	10	274	96	- (5)	- (5)	- (5)	- (5)	- (5)	0	0	<10	<10	<1,00	<1,00	3 b		
				10000	0	0	0	0						100	21	0	- (5)	/	- (5)	/	- (5)	/	0	0						
2013	3180	Déchets peaux dinde	Turkey wastes	1000	ND		ND		ND		ND	ND	ND	100	73	32	- (5)	- (5)	- (5)	- (5)	- (5)	0	0	<100	<100	<2,00	<2,00	3 a		
				10000	ND		ND		ND					1000	1	0	- (1)	/	+d (1)	/	- (1)	/	0	0						
2013	3513	Eau de siphon évacuation salle éviscération (atelier poulet)	Siphon water (chicken industry)	10	292	348	117	348	1100	3200	3,04	3,51	3,27	100	74	31	/	/	+ (1)	+ (1)	+ (5)	+ (5)	74	31	7200	2800	3,86	3,45	3,65	3 c
				100	5	3 d	1	0						1000	5	0	/	/	+ (1)	/	+ (5)	/	5	0						
2013	3514	Eau bac échaudoir entrée (atelier poulet)	Process water (chicken industry)	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00			

PRODUCTION ENVIRONMENTAL SAMPLES

Date	Sample N°	Product French name	Product	Reference method: ISO 10272-2*								Alternative method: RAPID'Campylobacter												Category	Type					
				Dilution	CFU/plate		CFU confirmed		CFU/g		log CFU/g		Mean	Dilution	CFU		Confirmatory tests by PCR		Confirmatory tests by Campylobacter Confirm Latex		Confirmatory tests by ISO tests		CFU/plate confirmed		CFU/g		log CFU/g			
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2						
2013	3522	Lingette crochets d'abatage (atelier poulet)	Swab (chicken industry)	10	/	/	/	/	4000	800	3,60	2,90	3,25	100	42	55	/	/	+ (1)	+ (1)	+ (5)	+ (5)	42	55	4400	5700	3,64	3,76	3,70	3 b
				100	40	8	40	8						N'	Ne	N'	Ne	N'	Ne	1000	6	8	/	/	+ (1)	+ (1)	+ (5)	+ (5)	6	8
2013	3523	Lingette bac évissération (atelier poulet)	Swab (chicken industry)	1000	>150	>150	>150	>150	980000	1100000	5,99	6,04	6,02	1000	IE	IE	/	/	/	/	/	/	IE	IE	820000	760000	5,91	5,88	5,90	3 b
				10000	98	114	98	114						N'	N'	N'	N'	10000	82	76	/	/	+ (1)	+ (1)	+ (5)	+ (5)	82	76		
2013	3524	Chutes de poulet	Chicken meat cut	1000	3	1	1	1	1000	1000	3,00*	3,00*	3,00*	100	46	57	/	/	+ (1)	+ (1)	+ (5)	+ (5)	46	57	5400	6200	3,73	3,79	3,76	3 a
				10000	1	2 d	1	0						10000	13	11	/	/	+ (1)	+ (1)	+ (5)	+ (5)	13	11						
2013	4048	Déchets sol pintade	Guinea fowl wastes	10	70	94	70	94	750	910	2,88	2,96	2,92	10	86	91	/	/	+ (1)	+ (1)	+ (5)	+ (5)	86	91	900	910	2,95	2,96	2,96	3 a
				100	12	6	12	6						100	13	9	/	/	+ (1)	+ (1)	+ (5)	+ (5)	13	9						
2013	4049	Eau siphon (atelier pintade)	Water process (guinea fowl industry)	100	19	16	19	16	2000	1500	3,30	3,18	3,24	100	4	13	+ (1)	/	+ (1)	+ (1)	+ (4)	+ (5)	4	13	successive dilution inconsistency	1200	ND	3,08	3,08	3 c
				1000	3	1	3	1						1000	3	0	+ (1)	/	+ (1)	/	+ (3)	/	3	0						
2013	4218	Chiffonnette Tablier (atelier porc)	Swab (pork industry)	10	4d	5d	4	5	40	50	1,60	1,70	1,65	10	2	1	/	/	+ (1)	+ (1)	+ (2)	+ (1)	2	1	20	10	1,30*	1,00*	<1,15	3 b
				100	0	0	0	0						Ne	Ne	Ne	Ne	100	0	0	/	/	/	/	0	0				
2013	4219	Chiffonnette pomme jet (atelier porc)	Swab (pork industry)	10	98d	126d	0	0	<10	<10	<1,00	<1,00	<1,00	10	1	1	+ (1)	/	+ (1)	+ (1)	+ (1)	+ (1)	1	1	10	10	1,00*	1,00*	1,00*	3 b
				100	1d	9d	0	0						100	1	1	/	/	/	/	/	/	/	/						
2013	4220	Eau bac d'échaudage (atelier porc)	Water process (pork industry)	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	1d	0	/	/	- (1)	/	- (1)	/	0	0	<10	<10	<1,00	<1,00	<1,00	3 c
				100	0	0	0	0						100	0	0	/	/	/	/	/	/	0	0						
2013	4221	Déchets parage (atelier porc)	Pork wastes	10	11	8d	11	8	110	80	2,04	1,90 Ne	1,97 Ne	10	1	7	+ (1)	/	+ (1)	+ (1)	+ (1)	+ (5)	1	7	10	70	1,00*	1,85 Ne	1,43*	3 a
				100	1	0	1	0						100	0	1	/	/	/	/	/	/	0	/						
2013	4226	Chiffonnette Tablier (atelier porc)	Swab (pork industry)	10	1	0	1	0	10	<10	1,00*	<1,00	<1,00	10	0	0	/	/	/	/	/	/	0	0	<10	<10	<1,00	<1,00	<1,00	3 b

PRODUCTION ENVIRONMENTAL SAMPLES

Date	Sample N°	Product French name	Product	Reference method: ISO 10272-2*								Alternative method: RAPID'Campylobacter												Category	Type						
				Dilution	CFU/plate		CFU confirmed		CFU/g		log CFU/g		Mean	Dilution	CFU		Confirmatory tests by PCR		Confirmatory tests by Campylobacter Confirm Latex		Confirmatory tests by ISO tests		CFU/plate confirmed		CFU/g		Mean				
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2							
2013	4931	Eau polychiller	Process water (poultry industry)	10	6	1	5	0	50 Ne	<10 Ne	1,70 Ne	<1,00 <1,35	10 100	<1,35	3	0	/	/	+1(1)	/	+1(1)	/	3	0	30	<10 Ne	1,48* 1,00	<1,24 1,65	3 3	c c	
				100	0	0	0	0					0		0	/	/	/	/	/	0	0									
2013	4932	Eau polychiller	Process water (poultry industry)	10	5	0	5	0	50 Ne	<10 Ne	1,70 Ne	<1,00 <1,35	10 100	<1,35	5	4	/	/	+1(1)	+1(1)	+1(1)	+1(1)	5	4	50 Ne	40 Ne	1,70 1,60	1,65	3 3	c c	
				100	1	0	/	0					0		0	/	/	/	/	/	0	0									
2013	4933	Déchets de volaille	Chicken wastes	10	59	60	59	60	620	590	2,79	2,77	2,78	100 1000	17 1 1	14	/	/	+1(1)	+1(1)	+1(1)	+1(1)	17	14	1600	1400	3,20 3,15	3,18	3 3	a a	
				100	9	5	9	5								1	1	/	+1(1)	+1(1)	+1(1)	+1(1)	1	1							
2013	4934	Eau de process volaille	Process water (poultry industry)	10	8	4	8	3	80 Ne	30	1,90 Ne	1,48* 1,69*	1,69*	10 100	4 1 1	10	10	/	/	+1(1)	+1(1)	+1(1)	+1(1)	4	10	40 Ne	100 Ne	1,60 2,00	1,80	3 3	c c
				100	1 d	0	0	0								1	1	/	/	+1(1)	/	+1(1)	/								
2013	4935	Eau de process volaille	Process water (poultry industry)	10	2	2	2	1	20	10	1,30* 1,00*	1,00*	1,15*	10 100	0 0	2	/	/	/	+1(1)	/	+1(1)	/	0	1	<10	10	<1,00 1,00*	<1,00 1,00	3 3	c c
				100	0	0	0	0								0	0	/	/	/	/	/	0								
2018	2461	Chutes découpe de porcs	Pork wastes	10	0	/	0	/	<10	/	<1,00	/	1,15*	10 100	0 0	0	/	/	/	/	/	/	0	/	<10	/	<1,00 /	<1,12	3 3	a a	
				100	0	/	0	/								0	0	/	/	/	/	/	0	/							
2018	2462	Chutes découpe de bœufs	Beef wastes	10	0	/	0	/	<10	/	<1,00	/	1,15*	10 100	0 0	0	/	/	/	/	/	/	0	/	<10	/	<1,00 /	<1,13	3 3	a a	
				100	0	/	0	/								0	0	/	/	/	/	/	0	/							
2018	2485	Déchets de volaille	Poultry wastes	10	7	/	7	/	70	/	1,85 Ne	/	1,15*	10 100	21 8	/	+1(1)	/	+1(1)	/	+1(1)	/	21	/	260	/	2,41 8	<1,17	3 3	a a	
				100	1	/	1	/								1	1	/	/	+1(1)	/	+1(1)	/	8	/						
2018	2486	Déchets de porc	Pork wastes	10	24	/	24	/	260	/	2,41	/	1,15*	10 100	30 3	/	+1(1)	/	+1(1)	/	+1(1)	/	30	/	300	/	2,48 3	<1,18	3 3	a a	
				100	4	/	4	/								4	3	/	+1(1)	/	+1(1)	/	+1(1)	/	3	/					
2018	2487	Déchets de bœuf	Beef wastes	100	0	/	0	/	<100	/	<2,00	/	1,15*	100 1000	0 0	0	/	/	/	/	/	/	0	/							

MEAT AND MEAT PRODUCTS (except poultry)

Date	Sample N°	Product (French name)	Product	Reference method: ISO 10272-2*								Alternative method: RAPID'Campylobacter								Category	Type						
				Dilution	CFU/plate		CFU/plate confirmed		CFU/g		log CFU/g		Mean	Dilution	CFU/plate		Confirmatory tests by Campylobacter Confirm Latex		CFU/plate confirmed		CFU/g		log CFU/g				
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			
2013	3136	Steak haché de bœuf	Ground beef	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	0	0	<10	<10	<1,00	<1,00	<1,00	1 a	
				100	0	0	0	0	<10	<10	<1,00	<1,00	<1,00		100	0	0	/	/	0	0	<10	<10	<1,00	<1,00	<1,00	1 c
2013	3137	Carpaccio bœuf	Raw processed beef meat	10	0	0	0	0			<1,00	<1,00	<1,00	<1,00	10	0	0	/	/	0	0	<10	<10	<1,00	<1,00	<1,00	1 a
				100	0	0	0	0							100	0	0	/	/	0	0						1 a
2013	3138	Côte de porc	Raw pork meat pork	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	<1,00	10	0	0	/	/	0	0	<10	<10	<1,00	<1,00	<1,00	1 a
				100	0	0	0	0							100	0	0	/	/	0	0						1 a
2013	3139	Côte d'agneau	Raw lamb meat	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	<1,00	10	0	0	/	/	0	0	<10	<10	<1,00	<1,00	<1,00	1 a
				100	0	0	0	0							100	0	0	/	/	0	0						1 a
2013	3140	Chair à saucisse aux épices	Sausage	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	<1,00	10	0	0	/	/	0	0	<10	<10	<1,00	<1,00	<1,00	1 c
				100	0	0	0	0							100	0	0	/	/	0	0						1 c
2013	4216	Prélèvement carcasse porc (après évécération)	Pork carcass	10	6	10	6	10	60	100	1,78	2,00	1,89	10	4	4	+ (1)	+ (1)	4	4	40	Ne	40	1,60	1,60	1 b	
				100	0	1	0	1							100	0	0	/	/							1 b	
2013	4217	Prélèvement carcasse porc (avant évécération)	Pork carcass	10	4d	4d	0	0	<10	<10	<1,00	<1,00	<1,00	<1,00	10	0	0	/	/	0	0	<10	<10	<1,00	<1,00	<1,00	1 b
				100	0	0	0	0							100	0	0	/	/	0	0						1 b
2013	4332	Prélèvement carcasse porc	Swab (pork industry)	100	4	5	4	5	400	500	2,60	2,70	2,65	Ne	100	5	10	+ (1)	+ (1)	5	10	500	Ne	910	2,70	2,96	1 b
				1000	1	1	/	/							1000	1	0	+ (1)	/	1	0						1 b
2013	4672	Poitrine de porc sous film	Fresh meat pork	100	123	100	123	100	11000	9200	4,04	3,96	4,00	Ne	100	52	58	+ (1)	+ (1)	52	58	5000	5500	3,70	3,74	3,72	1 a
				1000	3	1	3	1							1000	3	3	+ (1)	+ (1)	3	3						1 a
2013	4673	Côtes de porc sous film	Fresh meat pork	100	35	39	35	39	3500	4300	3,54	3,63	3,59	Ne	100	48	40	+ (1)	+ (1)	48	40	4700	3700	3,67	3,57	3,62	1 a
				1000	4	8	4	8							1000	4	1	+ (1)	+ (1)	4	1						1 a
2013	4674	Côte de porc bio sous MAP	Fresh meat pork	10	45	45	45	45	450	440	2,65	2,64	2,65	Ne	100	36	30	+ (1)	+ (1)	36	30	3400	2700	3,53	3,43	3,48</td	

MEAT AND MEAT PRODUCTS (except poultry)

Date	Sample N°	Product (French name)	Product	Reference method: ISO 10272-2*								Alternative method: RAPID'Campylobacter								Category	Type											
				Dilution	CFU/plate		CFU/plate confirmed		CFU/g		log CFU/g		Mean	Dilution	CFU/plate		Confirmatory tests by Campylobacter Confirm Latex		CFU/plate confirmed		CFU/g		log CFU/g									
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2								
2013	4851	Saucisses de porc aux oignons sous MAP	Pork sausage with onion	100	1	2	1	2	1000	2000	3,00*	3,30*	3,15*	<10	10	<1,00	<1,60	<1,00	10	1	1	+(1)	+(1)	24	24	2500	2400	3,40	3,38	3,39	1 c	
				1000	0	0	0	0																								
2013	4852	Collier d'agneau sous film	Lamb meat	10	0	1	0	1	<10	10	<1,00	<1,60	<1,00	100	0	0	0	0	0	0	0	0	0	0	0	0	10	10	1,00*	1,00*	1,00*	1 a
				100	0	0	0	0																								
2013	4853	Côtes d'agneau sous film	Lamb meat	10	3	4	3	4	30	40	1,48*	1,60	1,51*	100	0	0	0	0	0	0	0	0	0	0	0	0	130	160	2,11	2,20	2,16	1 a
				100	1	0	/	0																								
2013	4854	Jarret d'agneau sous film	Lamb meat	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	100	0	0	0	0	0	0	0	0	0	0	0	0	20	<10	1,30*	<1,00	<1,00	1 a
				100	0	0	0	0																								
2018	2455	Prélèvement carcasse de porc	Sample pork carcass	10	0	/	0	/	<10	/	<1,00	/	1,15*	100	0	0	0	0	0	0	0	0	0	0	0	<10	/	<1,00	<1,06	1 b		
				100	0	/	0	/																								
2018	2456	Prélèvement carcasse de porc	Sample pork carcass	10	0	/	0	/	<10	/	<1,00	/	1,15*	100	0	0	0	0	0	0	0	0	0	0	<10	/	<1,00	<1,07	1 b			
				100	0	/	0	/																								
2018	2457	Prélèvement carcasse de porc	Sample pork carcass	10	0	/	0	/	<10	/	<1,00	/	1,15*	100	0	0	0	0	0	0	0	0	0	0	<10	/	<1,00	<1,08	1 b			
				100	0	/	0	/																								
2018	2458	Prélèvement carcasse de bœuf	Sample beef carcass	10	0	/	0	/	<10	/	<1,00	/	1,15*	100	0	0	0	0	0	0	0	0	0	<10	/	<1,00	<1,09	1 b				
				100	0	/	0	/																								
2018	2459	Prélèvement carcasse de bœuf	Sample beef carcass	10	0	/	0	/	<10	/	<1,00	/	1,15*	100	0	0	0	0	0	0	0	0	0	<10	/	<1,00	<1,10	1 b				

POULTRY AND POULTRY PRODUCTS

POULTRY AND POULTRY PRODUCTS																											
Date	Sample N°	Product (French name)	Product	Reference method: ISO 10272-2*										Alternative method: RAPID'Campylobacter										Category	Type		
				Dilution	CFU/plate		CFU/plate confirmed		CFU/g		log CFU/g		Mean	Dilution	CFU/plate		Confirmatory tests by Campylobacter Confirm Latex		CFU/plate confirmed		CFU/g		log CFU/g		Dilution		
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			
2013	3141	Cuisse de poulet avec peau	Chicken leg	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	0	0	<10	<10	<1,00	<1,00	<1,00	2	a
2013				100	0	0	0	0						100	0	0	/	/	0	0							
2013	3181	Escalope poulet	Raw Chicken meat	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	0	0	<10	<10	<1,00	<1,00	<1,00	2	a
2013				100	0	0	0	0						100	0	0	/	/	0	0							
2013	3182	Coquelet	Cockerel	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	0	0	<10	<10	<1,00	<1,00	<1,00	2	a
2013				100	0	0	0	0						100	0	0	/	/	0	0							
2013	3183	Cailles entières	Quail	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	/	/	/	/	/	/	4000	1600	3,60	3,20	N'	2	a
2013				100	0	0	0	0						100	40	16 d	+ (1)	+ (1)	40	16							
2013	3184	Ailes de poulet	Chicken wings	10	10	6	10	6	110	60	2,04	1,78	1,91	10	5	4	+ (1)	+ (1)	5	4	50	40	1,70	1,60	Ne	2	a
2013				100	2	0	2	0	Ne					100	0	0	/	/	/	/							
2013	3185	Filet de canard	Raw duck meat	10	56	65	56	65	560	690	2,75	2,84	2,79	10	4	7	+ (1)	+ (1)	4	7	successive dilution inconsistency	successive dilution inconsistency	ND	successive dilution inconsistency	successive dilution inconsistency	2	a
2013				100	6	11	6	11						100	3	5	+ (1)	+ (1)	3	5							
2013	3186	Manchons de poulet barattés sel fin	Chicken salted meat	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	0	0	<10	<10	<1,00	<1,00	<1,00	2	c
2013				100	0	0	0	0						100	0	0	/	/	0	0							
2013	3187	Manchons de poulet barattés gros sel	Chicken salted meat	10	2	0	1	0	10	<10	1,00*	<1,00	<1,00	10	2	0	+ (1)	/	2	0	20	<10	1,30*	<1,00	<1,00	2	c
2013				100	0	0	0	0						100	0	0	/	/	0	0							
2013	3188	Manchons de poulet barattés sel ordinaire	Chicken salted meat	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	1	0	+ (1)	/	1	0	10	<10	1,00*	<1,00	<1,00	2	c
2013				100	0	0	0	0						100	0	0	/	/	0	0							
2013	3525	Gésiers de poulet	Chicken gizzard	10	306 d	305 d	0	0	<10	<10	<1,00	<1,00	<1,00	100	37	102	+ (1)	+ (1)	37	102	4000	9700	3,60	3,99	3,79	2	a
2013				100	24 d	28 d	0	0						1000	7	5	+ (1)	+ (1)	7	5							
2013	3526	Peau de cou	Poultry neck skin	10	157	148	157	148	1500	1400	3,18	3,15	3,16	10	36 d	106 d	+ (1)	+ (1)	36	106	400	1100	2,60	3,04	2,82	2	a
2013				100	8	4	8	2						100	8	14 d	+ (1)	+ (1)	8	14							
2013	3527	Carcasse de poule	Chicken carcass	1000	>150	72	>150	72	140000	75000	5,15 N'	4,88	5,01	1000	>150	>150	+ (1)	+ (1)	>150	>150	180000	100000	5,26 N'	5,00 N'	5,13 N'	2	b
2013				10000	14	10	14	10						10000	18	10	+ (1)	+ (1)	18	10							
2013	3764	Cuisse de poulet	Chicken leg	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	0	0	<10	<10	<1,00	<1,00	<1,00	2	a
2013				100	0	0	0	0						100	0	0	/	/	0	0							
2013	3765	Peau de cou de pintade	Guinea fowl neck skin	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	0	0	<10	<10	<1,00	<1,00	<1,00	2	a
2013				100	0	0	0	0						100	0	0	/	/	0	0							
2013	3766	Cuisse poulet fermier	Chicken leg	10	3d	2d	2	2	20	20	1,30*	1,30*	1,30*	10	0	2	/	+ (1)	0	2	<10	20	<1,00	1,30*	1,15*	2	a
2013				100	1d	0	1	0						100	0	0	/	/	0	0							
2013	3767	Peau de cou poulet	Poultry neck skin	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	0	0	<10	<10	<1,00	<1,00	<1,00	2	a
2013				100	0	0	0	0						100	0	0	/	/	0	0							
2013	3768	Carcasse de poulet	Chicken carcass	10	4d	5d	4	5	40	50	1,60 Ne	1,70 Ne	1,65 Ne	10	5	4	+ (1)	+ (1)	5	4	50	40	1,70 Ne	1,60 Ne	1,65 Ne	2	b
2013				100	1d	1d	1	1						100	0	0	/	/	0	0							

- Analyses performed according to the COFRAC accreditation

POULTRY AND POULTRY PRODUCTS

Date	Sample N°	Product (French name)	Product	Reference method: ISO 10272-2*								Alternative method: RAPID'Campylobacter										Category	Type			
				Dilution	CFU/plate		CFU/plate confirmed		CFU/g		log CFU/g		Mean	Dilution	CFU/plate		Confirmatory tests by Campylobacter Confirm Latex		CFU/plate confirmed		CFU/g		log CFU/g			
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2				
2013	4051	Escalope de dinde milanaise	Cooked meat turkey	10	0	2d	0	2	<10	10	<1,00	1,00*	<1,00	10	0	0	/	/	0	0	<10	<10	<1,00	<1,00	2	c
				100	0	0	0	0																		
2013	4052	Filet poulet cuit	Cooked meat chicken	10	8	6	8	6	80	60	1,90 Ne	1,78 Ne	1,84 Ne	10	2	1	+(1)	+(1)	2	2	20	20	1,30*	1,30*	2	c
				100	0	0	0	0																		
2013	4053	Aiguillettes poulet au paprika	Cooked meat chicken	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	0	0	<10	<10	<1,00	<1,00	2	c
				100	0	0	0	0																		
2013	4171	Carcasse pintade	Water Guinea fowl carcass	10	2	2	2	2	20	20	1,30*	1,30*	1,30*	10	4	5	+(1)	+(1)	4	5	40	50	1,60 Ne	1,70 Ne	2	b
				100	0	0	0	0																		
2013	4172	Carcasse pintade	Water Guinea fowl carcass	10	3	2	3	2	30	20	1,48*	1,30*	1,39*	10	1	3	+(1)	+(1)	1	3	10	30	1,00*	1,48*	2	b
				100	0	0	0	0																		
2013	4173	Gésier poulet	Chicken gizzard	10	18	14	18	14	160	150	2,20	2,18	2,19	10	31	25	+(1)	+(1)	31	25	300	250	2,48	2,40	2	a
				100	0	2	0	2																		
2013	4174	Peau cou de poulet	Poultry neck skin	100	32	26	32	26	3600	2700	3,56	3,43	3,49	100	32	468 (-1)	+(1)	+(1)	32	468 (-1)	3100	successive dilution inconsistency	3,49	successive dilution inconsistency	/	a
				1000	8	4	8	4																		
2013	4175	Peau cou de pintade	Guinea fowl neck skin	10	89	64	89	64	860	580	2,93	2,76	2,85	10	84	73	+(1)	+(1)	84	73	790	680	2,90	2,83	2	a
				100	6	0	6	0																		
2013	4222	Terrine de volaille	Processed poultry meat product	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	0	0	<10	<10	<1,00	<1,00	2	c
				100	0	0	0	0																		
2013	4223	Mousse de canard	Processed duck meat product	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	10	0	0	/	/	0	0	<10	<10	<1,00	<1,00	2	c
				100	0	0	0	0																		
2013	4224																									

POULTRY AND POULTRY PRODUCTS

Date	Sample N°	Product (French name)	Product	Reference method: ISO 10272-2*								Alternative method: RAPID'Campylobacter										Category	Type			
				Dilution	CFU/plate		CFU/plate confirmed		CFU/g		log CFU/g		Mean	CFU/plate		Confirmatory tests by Campylobacter Confirm Latex		CFU/plate confirmed		CFU/g		log CFU/g				
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2		Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2					
2013	4857	Magret de canard sous vide	Duck meat	1000	25	23	25	23	25000	23000	4,40	4,36	4,38	100	89	99	+ (1)	+ (1)	89	99	9400	10000	3,97	4,00	3,99	2 a
				10000	2	2	2	2						1000	14	11	+ (1)	+ (1)	14	11						
2013	4858	Filet de canard sous vide	Duck filet	100	5	26	4	26	400	2400	2,60	3,38	2,99	100	44	38	+ (1)	+ (1)	44	38	4400	4100	3,64	3,61	3,63	2 a
				1000	2	0	/	0						1000	4	7	+ (1)	+ (1)	4	7						
2018	2450	Peau de cou de dinde	Turkey neck skin	10	11	/	11	/	120	/	2,08	/	1,15*	10	74	/	+ (1)	/	74	/	730	/	2,86	<1,01	2 b	
				100	2	/	2	/						100	6	/	+ (1)	/	6	/						
2018	2451	Peau de cou de dinde	Turkey neck skin	10	0	/	0	/	100	/	2,00*	/	1,15*	100	10	/	+ (1)	/	10	/	1200	/	3,08	<1,02	2 b	
				100	1	/	1	/						1000	3	/	+ (1)	/	3	/						
2018	2452	Peau de cou de poulet fermier	Chicken neck skin	10	17	/	17	/	160	/	2,20	/	1,15*	10	13	/	+ (1)	/	13	/	160	/	2,20	<1,03	2 b	
				100	0	/	0	/						100	4	/	+ (1)	/	4	/						
2018	2453	Peau de cou de poulet fermier	Chicken neck skin	10	0	/	0	/	<10	/	<1,00	/	1,15*	10	11	/	+ (1)	/	11	/	110	/	2,04	<1,04	2 b	
				100	0	/	0	/						100	1	/	+ (1)	/	1	/						
2018	2454	Peau de cou de poulet fermier	Chicken neck skin	100	26	/	26	/	3000	/	3,48	/	1,15*	10	88	/	+ (1)	/	88	/	920	/	2,96	<1,05	2 b	
				1000	7	/	7	/						1000	13	/	+ (1)	/	13	/						
2018	2488	Peau de cou de poulet	Poultry neck skin	10	10	/	10	/	91	/	1,96	/	1,15*	10	7	/	+ (1)	/	7	/	70	/	1,85 Ne	<1,20	2 b	
				100	0	/	0	/						100	0	/	/	/	0	/						
2018	2489	Peau de cou de poulet	Poultry neck skin	10	0	/	0	/	<10	/	<1,00	/	1,15*	10	0	/	/	/	/	/	<10	/	<1,00	<1,21	2 b	
				100	0	/	0	/						100	0	/	/	/	/	/						
2018	2973	Peau de cou	Neck skin	100	14	/	14	/	1500	/	3,18	/	1,15*	100	10	/	+	/	10	/	1000	/	3,00	<1,28	2 b	
				1000	2	/	2	/						1000	1	/	+	/	1	/						

PRODUCTION ENVIRONMENTAL SAMPLES

Date	Sample N°	Product (French name)	Product	Reference method: ISO 10272-2*								Alternative method: RAPID'Campylobacter								Category	Type								
				Dilution	CFU/plate		CFU confirmed		CFU/g		log CFU/g		Mean	Dilution	CFU/plate		Confirmatory tests by Campylobacter Confirm Latex		CFU/plate confirmed		CFU/g		log CFU/g						
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2					
2013	3173	Eau caniveau plumerie (atelier dinde)	Water process (turkey industry)	100	IE		IE		<1000	<1000	<3,00	<3,00	<3,00	<3,00	100	107		165		+ (1)	+ (1)	107	165	16000	15000	4,20	4,18	4,19	3 c
				1000	0	0	0	0								1000	66	5	+ (1)	+ (1)	66	5							
2013	3174	Eau bac d'échaudage (atelier dinde)	Water process (turkey industry)	100	0	0	0	0	<100	<100	<2,00	<2,00	<2,00	<2,00	100	0		0		/	/	0	0	<100	<100	<2,00	<2,00	3 c	
				1000	0	0	0	0								1000	0	0	/	/	0	0							
2013	3175	Eau sol salle lavage (atelier dinde)	Water process (turkey industry)	100	0	0	0	0	<100	<100	<2,00	<2,00	<2,00	<2,00	100	0		0		/	/	0	0	<100	<100	<2,00	<2,00	3 c	
				1000	0	0	0	0								1000	0	0	/	/	0	0							
2013	3176	Lingettes murs ressuage (atelier dinde)	Swab (turkey industry)	1000	68 d	>150 d	0	/	<1000	<10000	<3,00	<4,00	<3,50	<3,50	10	0		0		/	/	0	0	<10	<10	<1,00	<1,00	3 b	
				10000	17 d	15 d	0	0								100	0	0	/	/	0	0							
2013	3177	Lingettes laveuse externe (atelier dinde)	Swab (turkey industry)	1000	ND		ND		ND	ND	ND	ND	ND	ND	100	95 + μ		71 + μ		- (5)	- (5)	0	0	<100	<100	<2,00	<2,00	3 b	
				10000	ND		ND									1000	0	0	/	/	0	0							
2013	3178	Lingettes plumeuse (atelier dinde)	Swab (turkey industry)	1000	ND		ND		ND	ND	ND	ND	ND	ND	1000	/		/		/	/	0	0	<10000	<10000	<4,00	<4,00	3 b	
				10000	ND		ND									10000	29	28	- (5)	- (5)	0	0							
2013	3179	Lingettes sol (atelier dinde)	Swab (turkey industry)	1000	ND		ND		<10000	<10000	<4,00	<4,00	<4,00	<4,00	10	274		96		- (5)	- (5)	0	0	<10	<10	<1,00	<1,00	3 b	
				10000	0	0	0	0								100	21	0	- (5)	/	0	/							
2013	3180	Déchets peaux dinde	Turkey wastes	1000	ND		ND		ND	ND	<4,00	<4,00	ND	ND	100	73		32		+d (5)	+d (5)	0	0	<100	<100	<2,00	<2,00	3 a	
				10000	ND		ND									1000	1	0	+d (5)	+d (5)	0	0							
2013	3513	Eau de siphon évacuation salle éviscération (atelier poulet)	Siphon water (chicken industry)	10	292	348	117	348	1100	3200	3,04	3,51	3,27	3,27	100	74		31		+ (1)	+ (1)	74	31	7200	2800	3,86	3,45	3,65	3 c
				100	5	3 d	1	0								1000	5	0	+ (1)	/	5	0							
2013	3514	Eau bac échaudoir entrée (atelier poulet)	Process water (chicken industry)	10	0	0	0	0	<10	<10																			

PRODUCTION ENVIRONMENTAL SAMPLES

Date	Sample N°	Product (French name)	Product	Reference method: ISO 10272-2*								Alternative method: RAPID'Campylobacter								Category	Type						
				Dilution	CFU/plate		CFU confirmed		CFU/g		log CFU/g		Mean	Dilution	CFU/plate		Confirmatory tests by Campylobacter Confirm Latex		CFU/plate confirmed		CFU/g		log CFU/g				
					Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2			Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2					
2013	4221	Déchets parage (atelier porc)	Pork wastes	10	11	8d	11	8	110	80 Ne	2,04	1,90 Ne	1,97 Ne	100	1	0	<10	1,00*	<1,00	<1,00	10	70 Ne	1,00*	1,85 Ne	<1,00	3	a
				100	1	0	1	0							100	0	1										
2013	4226	Chiffonnette Tablier (atelier porc)	Swab (pork industry)	10	1	0	1	0	10	<10	1,00*	<1,00	<1,00	100	0	0	10	0	0	0	<10	<10	<1,00	<1,00	<1,00	3	b
				100	0	0	0	0							100	0	0										
2013	4329	Eau bac échaudage (porc)	Water process (pork industry)	100	31	31	31	31	3200	2800	3,51	3,45	3,48	100	75	14	+(1)	+(1)	75	14	720	successive dilution inconsistency	2,86	/	2,86	3	c
				1000	4	0	4	0							100	4	10										
2013	4330	Eau de process (porc)	Water process (pork industry)	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	100	6	4	+(1)	+(1)	6	4	60	40	1,78 Ne	1,60 Ne	1,69 Ne	3	c
				100	0	0	0	0							100	0	0										
2013	4331	Lingette pomme jet surpressé (porc)	Swab (pork industry)	100	36	29	36	29	4300	2800	3,63	3,45	3,54	100	43	10	+(1)	+(1)	43	10	4800	successive dilution inconsistency	3,68	/	3,68	3	b
				1000	11	2	11	2							1000	10	10										
2013	4926	Eau process plumeuse	Process water (poultry industry)	10	4	1	4	1	40 Ne	10	1,60 Ne	1,00*	1,30*	100	0	0	/	/	0	0	<10	<10	<1,00	<1,00	#DIV/0!	3	c
				100	0	0	0	0							100	0	0										
2013	4927	Eau process échaudage	Process water (poultry industry)	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	100	0	0	/	/	0	0	<10	<10	<1,00	<1,00	#DIV/0!	3	c
				100	0	0	0	0							100	0	0										
2013	4928	Lingettes surface porc après tapis nerf	Swab (poultry industry)	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	100	1	2	+(1)	+(1)	1	2	10	20	1,00*	1,30*	1,15*	3	b
				100	0	0	0	0							100	0	0										
2013	4929	Lingettes tapis saignée en production	Swab (poultry industry)	10	4	7	4	7	40 Ne	70 Ne	1,60	1,85	1,72 Ne	10	7	7	+(1)	+(1)	7	7	70 Ne	70 Ne	1,85	1,85	3	b	
				100	1	0	/	0							100	1	1										
2013	4930	Eau de refroidissement poulets	Process water (poultry industry)	10	0	0	0	0	<10	<10	<1,00	<1,00	<1,00	100	0	0	/	/	0	0	<10						

Appendix 5 - Relative trueness study: calculations

Category	Type	N°sample	Incubation : 40-48 h								
			Log CFU/g		Average	Difference	Alternative method		Average <4 CFU/plate	Difference <4 CFU/plate	Average corrected values
			Reference method	Alternative method			<4 CFU/plate	<or> threshold corrected values			
1	a	3136	0,00		#N/A			0,00	#N/A		0,00
	a	3138	0,00		#N/A			0,00	#N/A		0,00
	a	3139	0,00		#N/A			0,00	#N/A		0,00
	a	4672	4,04	3,70	3,87	-0,34			#N/A		#N/A
	a	4673	3,54	3,67	3,61	0,13			#N/A		#N/A
	a	4674	2,65	3,53	3,09	0,88			#N/A		#N/A
	a	4678	3,49	3,56	3,52	0,06			#N/A		#N/A
	a	4797	0,00		#N/A			0,00	#N/A		0,00
	a	4852	0,00		#N/A			1,00	#N/A		0,50
	a	4853	1,48		#N/A		2,11		1,80	0,63	#N/A
	a	4854	0,00		#N/A			1,30	#N/A		0,65
	a	2482	2,11	2,08	2,10	-0,03			#N/A		#N/A
	a	3332	2,75	2,64	2,70	-0,10			#N/A		#N/A
	a	3333	0,00		#N/A			1,00	#N/A		0,50
	b	4216	1,78	1,60	1,69	-0,18			#N/A		#N/A
	b	4217	0,00		#N/A			0,00	#N/A		0,00
	b	4332	2,60	2,70	2,65	0,10			#N/A		#N/A
	b	2455	0,00		#N/A			0,00	#N/A		0,00
	b	2456	0,00		#N/A			0,00	#N/A		0,00
	b	2457	0,00		#N/A			0,00	#N/A		0,00
	b	2458	0,00		#N/A			0,00	#N/A		0,00
	b	2459	0,00		#N/A			0,00	#N/A		0,00
	b	2460	0,00		#N/A			0,00	#N/A		0,00
	b	2967	0,00		#N/A			1,00	#N/A		0,50
	b	2968	4,36	4,30	4,33	-0,06			#N/A		#N/A
	b	2969	3,23	3,40	3,31	0,17			#N/A		#N/A
	b	2970	4,30	4,57	4,43	0,27			#N/A		#N/A
	b	2971	2,04	1,85	1,94	-0,20			#N/A		#N/A
	b	2972	3,34	3,60	3,47	0,26			#N/A		#N/A
	c	3137	0,00		#N/A			0,00	#N/A		0,00
	c	3140	0,00		#N/A			0,00	#N/A		0,00
	c	4675	2,98	3,18	3,08	0,19			#N/A		#N/A
	c	4676	2,84	3,00	2,92	0,16			#N/A		#N/A
	c	4677	3,40	3,32	3,36	-0,08			#N/A		#N/A
	c	4679	2,58	2,62	2,60	0,04			#N/A		#N/A
	c	4680	3,23	3,34	3,29	0,11			#N/A		#N/A
	c	4681	1,48		#N/A		1,48		1,48	0,00	#N/A
	c	4793	3,00	2,70	2,85	-0,30			#N/A		#N/A
	c	4794	4,20	3,87	4,04	-0,33			#N/A		#N/A
	c	4795	3,70	3,84	3,77	0,14			#N/A		#N/A
	c	4796	1,30		#N/A			0,00	#N/A		0,65
	c	4849	4,00	3,85	3,92	-0,15			#N/A		#N/A
	c	4850	0,00		#N/A			1,30	#N/A		0,65
	c	4851	3,00		#N/A		3,40		3,20	0,40	#N/A
	c	2483	0,00		#N/A			0,00	#N/A		0,00
	c	2484	1,70	1,60	1,65	-0,10			#N/A		#N/A
	c	2974	2,78		#N/A		2,00		2,39	-0,78	#N/A
	c	3334	2,71	2,56	2,63	-0,15			#N/A		#N/A
	c	3335	4,49	4,54	4,52	0,05			#N/A		#N/A
	c	3336	3,30	3,32	3,31	0,02			#N/A		#N/A
Average category 1						0,02					
Standard deviation of differences category 1						0,25					

Category	Type	N°sample	Incubation : 40-48 h									
			Log CFU/g		Average	Difference	Alternative method		Average <4 CFU/plate	Difference <4 CFU/plate	Average corrected values	Difference Corrected values
			Reference method	Alternative method			<4 CFU/plate	<or> threshold corrected values				
2	a	3141	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	3181	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	3182	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	3183	0,00		#N/A			3,40	#N/A		1,70	3,40
	a	3184	1,91	1,65	1,78	-0,26			#N/A		#N/A	
	a	3185	2,79		#N/A				#N/A		#N/A	
	a	3525	0,00		#N/A			3,79	#N/A		1,90	3,79
	a	3526	3,16	2,82	2,99	-0,34			#N/A		#N/A	
	a	3764	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	3765	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	3766	1,30		#N/A			0,00	#N/A		0,65	-1,30
	a	3767	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	3770	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	4046	3,65	3,63	3,64	-0,02			#N/A		#N/A	
	a	4047	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	4173	2,19	2,36	2,28	0,17			#N/A		#N/A	
	a	4174	3,49	3,49	3,49	0,00			#N/A		#N/A	
	a	4175	2,85	2,86	2,85	0,01			#N/A		#N/A	
	a	4855	1,87	1,97	1,92	0,10			#N/A		#N/A	
	a	4856	4,84	4,36	4,60	-0,48			#N/A		#N/A	
	a	4857	4,38	3,99	4,18	-0,39			#N/A		#N/A	
	a	4858	2,99	3,63	3,31	0,64			#N/A		#N/A	
	b	3527	5,15	5,26	5,20	0,11			#N/A		#N/A	
	b	3768	1,60	1,70	1,65	0,10			#N/A		#N/A	
	b	3769	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	4044	1,00		#N/A			1,00	#N/A		1,00	0,00
	b	4045	1,00		#N/A			1,00	#N/A		1,00	0,00
	b	4171	1,30		#N/A		1,60			1,45	0,30	#N/A
	b	4172	1,00		#N/A		1,00			1,00	0,00	#N/A
	b	2450	2,08	2,86	2,47	0,78			#N/A		#N/A	
	b	2451	2,00		#N/A		3,08			2,54	1,08	#N/A
	b	2452	2,20	2,20	2,20	0,00			#N/A		#N/A	
	b	2453	0,00		#N/A			2,04	#N/A		1,02	2,04
	b	2454	3,48	3,96	3,72	0,49			#N/A		#N/A	
	b	2488	1,96	1,96	1,96	0,00			#N/A		#N/A	
	b	2489	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	2973	3,18	3,00	3,09	-0,18			#N/A		#N/A	
	c	3186	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	3187	0,00		#N/A			1,30	#N/A		0,65	1,30
	c	3188	0,00		#N/A			1,00	#N/A		0,50	1,00
	c	4050	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	4051	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	4052	1,84		#N/A			0,00	#N/A		0,92	-1,84
	c	4053	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	4222	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	4223	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	4224	1,45		#N/A			0,00	#N/A		0,73	-1,45
	c	4225	1,24		#N/A			0,00	#N/A		0,62	-1,24
	c	4324	1,15		#N/A			0,00	#N/A		0,58	-1,15
	c	4325	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	4326	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	4327	1,77		#N/A			0,00	#N/A		0,89	-1,77
	c	4328	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	4503	3,09	3,20	3,15	0,12			#N/A		#N/A	
	c	4504	2,15	2,41	2,28	0,27			#N/A		#N/A	
	c	4505	2,38	2,51	2,44	0,13			#N/A		#N/A	
	c	4506	3,30	3,08	3,19	-0,22			#N/A		#N/A	
	c	4507	2,49	2,57	2,53	0,08			#N/A		#N/A	
	c	4508	3,17	3,18	3,18	0,02			#N/A		#N/A	
Average category 2						0,05						
Standard deviation of differences category 2						0,30						

Category	Type	N°sample	Incubation : 40-48 h									
			Log CFU/g		Average	Difference	Alternative method		Average <4 CFU/plate	Difference <4 CFU/plate	Average corrected values	Difference Corrected values
			Reference method	Alternative method			<4 CFU/plate	<or> threshold corrected values				
3	a	3524	3,00		#N/A		3,73		3,37	0,73	#N/A	
	a	4048	2,88	2,95	2,91	0,08			#N/A		#N/A	
	a	4221	2,04		#N/A		1,00		1,52	-1,04	#N/A	
	a	4933	2,79	3,20	3,00	0,41			#N/A		#N/A	
	a	2461	0,00		#N/A			0,00	#N/A	0,00	0,00	
	a	2462	0,00		#N/A			0,00	#N/A	0,00	0,00	
	a	2485	1,85	2,41	2,13	0,56			#N/A		#N/A	
	a	2486	2,41	2,48	2,45	0,06			#N/A		#N/A	
	a	2487	1,00		#N/A			1,00	#N/A	1,00	0,00	
	a	2994	3,08		#N/A		3,20		3,14	0,12	#N/A	
	a	2995	3,11	3,60	3,36	0,49			#N/A		#N/A	
	b	3176	2,00		#N/A			0,00	#N/A	1,00	-2,00	
	b	3179	3,00		#N/A			0,00	#N/A	1,50	-3,00	
	b	3519	5,04	4,70	4,87	-0,34			#N/A		#N/A	
	b	3520	2,95	2,83	2,89	-0,13			#N/A		#N/A	
	b	3521	3,34	3,28	3,31	-0,06			#N/A		#N/A	
	b	3522	3,60	3,64	3,62	0,04			#N/A		#N/A	
	b	3523	5,99	5,91	5,95	-0,08			#N/A		#N/A	
	b	4218	1,60		#N/A		1,30		1,45	-0,30	#N/A	
	b	4219	0,00		#N/A			1,00	#N/A	0,50	1,00	
	b	4226	1,00		#N/A			0,00	#N/A	0,50	-1,00	
	b	4331	3,63	3,68	3,66	0,05			#N/A		#N/A	
	b	4928	0,00		#N/A			1,00	#N/A	0,50	1,00	
	b	4929	1,60	1,85	1,72	0,24			#N/A		#N/A	
	c	3173	2,00		#N/A			4,20	#N/A	3,10	2,20	
	c	3174	1,00		#N/A			1,00	#N/A	1,00	0,00	
	c	3175	1,00		#N/A			1,00	#N/A	1,00	0,00	
	c	3513	3,04	3,86	3,45	0,82			#N/A		#N/A	
	c	3514	0,00		#N/A			0,00	#N/A	0,00	0,00	
	c	3515	3,46	3,08	3,27	-0,38			#N/A		#N/A	
	c	3516	2,94	2,94	2,94	0,00			#N/A		#N/A	
	c	3517	1,70	1,60	1,65	-0,10			#N/A		#N/A	
	c	3518	0,00		#N/A			0,00	#N/A	0,00	0,00	
	c	4049	3,30		#N/A				#N/A		#N/A	
	c	4220	0,00		#N/A			0,00	#N/A	0,00	0,00	
	c	4329	3,51	2,86	3,18	-0,65			#N/A		#N/A	
	c	4330	0,00		#N/A			1,78	#N/A	0,89	1,78	
	c	4926	1,60		#N/A			0,00	#N/A	0,80	-1,60	
	c	4927	0,00		#N/A			0,00	#N/A	0,00	0,00	
	c	4930	0,00		#N/A			0,00	#N/A	0,00	0,00	
	c	4931	1,70		#N/A		1,48		1,59	-0,22	#N/A	
	c	4932	1,70	1,70	1,70	0,00			#N/A		#N/A	
	c	4934	1,90	1,60	1,75	-0,30			#N/A		#N/A	
	c	4935	1,30		#N/A			0,00	#N/A	0,65	-1,30	
Average category 3						0,04						
Standard deviation of differences category 3						0,35						
Average all categories			Dall			0,04						
Standard deviation of differences all categories			SDAll			0,29						

n all 68
 β=95% $T(0,05;70)=$
 1,996008331
 0,591947652 Upper limit Lower limit Linear
 Average (minimal value) 0,00 0,63 -0,56 0,04
 Average (maximal value) 10,00 0,63 -0,56 0,04

Category	n	T(0,05;70)=	SD	ISO formula	Bias	Lower limit (95%)	Upper limit (95%)
1	26	2,06	0,25	0,52	0,02	-0,50	0,54
2	23	2,07	0,30	0,64	0,05	-0,59	0,69
3	17	2,12	0,35	0,77	0,04	-0,73	0,81
All categories	68	2,00	0,29	0,59	0,04	-0,56	0,63

Category	Type	N°sample	Incubation : 40-48 h + 72 h									
			Log CFU/g		Average	Difference	Alternative method		Average <4 CFU/plate	Difference <4 CFU/plate	Average corrected values	
			Reference method	Alternative method			<4 CFU/plate	<or> threshold corrected values				
1	a	3136	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	3138	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	3139	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	4672	4,04	3,70	3,87	-0,34			#N/A		#N/A	
	a	4673	3,54	3,67	3,61	0,13			#N/A		#N/A	
	a	4674	2,65	3,53	3,09	0,88			#N/A		#N/A	
	a	4678	3,49	3,56	3,52	0,06			#N/A		#N/A	
	a	4797	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	4852	0,00		#N/A			1,00	#N/A		0,50	1,00
	a	4853	1,48		#N/A		2,11		1,80	0,63	#N/A	
	a	4854	0,00		#N/A			1,30	#N/A		0,65	1,30
	a	2482	2,11	2,08	2,10	-0,03			#N/A		#N/A	
	a	3332	2,75	2,64	2,70	-0,10			#N/A		#N/A	
	a	3333	0,00		#N/A			1,00	#N/A		0,50	1,00
	b	4216	1,78	1,60	1,69	-0,18			#N/A		#N/A	
	b	4217	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	4332	2,60	2,70	2,65	0,10			#N/A		#N/A	
	b	2455	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	2456	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	2457	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	2458	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	2459	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	2460	0,00		#N/A			0,00	#N/A		0,00	0,00
	b	2967	0,00		#N/A			1,00	#N/A		0,50	1,00
	b	2968	4,36	4,30	4,33	-0,06			#N/A		#N/A	
	b	2969	3,23	3,40	3,31	0,17			#N/A		#N/A	
	b	2970	4,30	4,57	4,43	0,27			#N/A		#N/A	
	b	2971	2,04	1,85	1,94	-0,20			#N/A		#N/A	
	b	2972	3,34	3,60	3,47	0,26			#N/A		#N/A	
	c	3137	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	3140	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	4675	2,98	3,18	3,08	0,19			#N/A		#N/A	
	c	4676	2,84	3,00	2,92	0,16			#N/A		#N/A	
	c	4677	3,40	3,32	3,36	-0,08			#N/A		#N/A	
	c	4679	2,58	2,62	2,60	0,04			#N/A		#N/A	
	c	4680	3,23	3,34	3,29	0,11			#N/A		#N/A	
	c	4681	1,48		#N/A		1,48		1,48	0,00	#N/A	
	c	4793	3,00	2,70	2,85	-0,30			#N/A		#N/A	
	c	4794	4,20	3,87	4,04	-0,33			#N/A		#N/A	
	c	4795	3,70	3,84	3,77	0,14			#N/A		#N/A	
	c	4796	1,30		#N/A			0,00	#N/A		0,65	-1,30
	c	4849	4,00	3,85	3,92	-0,15			#N/A		#N/A	
	c	4850	0,00		#N/A			1,30	#N/A		0,65	1,30
	c	4851	3,00		#N/A		3,40		3,20	0,40	#N/A	
	c	2483	0,00		#N/A			0,00	#N/A		0,00	0,00
	c	2484	1,70	1,60	1,65	-0,10			#N/A		#N/A	
	c	2974	2,78		#N/A		2,00		2,39	-0,78	#N/A	
	c	3334	2,71	2,56	2,63	-0,15			#N/A		#N/A	
	c	3335	4,49	4,54	4,52	0,05			#N/A		#N/A	
	c	3336	3,30	3,32	3,31	0,02			#N/A		#N/A	
Average category 1						0,02						
Standard deviation of differences category 1						0,25						

Category	Type	N°sample	Incubation : 40-48 h + 72 h									
			Log CFU/g		Average	Difference	Alternative method		Average <4 CFU/plate	Difference <4 CFU/plate	Average corrected values	
			Reference method	Alternative method			<4 CFU/plate	<or> threshold corrected values				
2	a	3141	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	3181	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	3182	0,00		#N/A			0,00	#N/A		0,00	0,00
	a	3183	0,00		#N/A			3,60	#N/A	1,80	3,60	
	a	3184	1,91	1,70	1,80	-0,21			#N/A	#N/A		
	a	3185	2,79		#N/A				#N/A	#N/A		
	a	3525	0,00		#N/A			3,60	#N/A	1,80	3,60	
	a	3526	3,16	2,60	2,88	-0,56			#N/A	#N/A		
	a	3764	0,00		#N/A			0,00	#N/A	0,00	0,00	
	a	3765	0,00		#N/A			0,00	#N/A	0,00	0,00	
	a	3766	1,30		#N/A			0,00	#N/A	0,65	-1,30	
	a	3767	0,00		#N/A			0,00	#N/A	0,00	0,00	
	a	3770	0,00		#N/A			0,00	#N/A	0,00	0,00	
	a	4046	3,65	3,66	3,66	0,01			#N/A	#N/A		
	a	4047	0,00		#N/A			0,00	#N/A	0,00	0,00	
	a	4173	2,19	2,48	2,33	0,29			#N/A	#N/A		
	a	4174	3,49	3,49	3,49	0,00			#N/A	#N/A		
	a	4175	2,85	2,90	2,87	0,05			#N/A	#N/A		
	a	4855	1,87	1,90	1,89	0,03			#N/A	#N/A		
	a	4856	4,84	4,28	4,56	-0,56			#N/A	#N/A		
	a	4857	4,38	3,97	4,18	-0,41			#N/A	#N/A		
	a	4858	2,99	3,64	3,32	0,65			#N/A	#N/A		
	b	3527	5,15	5,26	5,20	0,11			#N/A	#N/A		
	b	3768	1,60	1,70	1,65	0,10			#N/A	#N/A		
	b	3769	0,00		#N/A			0,00	#N/A	0,00	0,00	
	b	4044	1,00		#N/A			1,00	#N/A	1,00	0,00	
	b	4045	1,00		#N/A			1,00	#N/A	1,00	0,00	
	b	4171	1,30		#N/A		1,60			1,45	0,30	#N/A
	b	4172	1,00		#N/A		1,00			1,00	0,00	#N/A
	b	2450	2,08	2,86	2,47	0,78			#N/A	#N/A		
	b	2451	2,00		#N/A		3,08			2,54	1,08	#N/A
	b	2452	2,20	2,20	2,20	0,00			#N/A	#N/A		
	b	2453	0,00		#N/A			2,04	#N/A	1,02	2,04	
	b	2454	3,48	2,96	3,22	-0,51			#N/A	#N/A		
	b	2488	1,96	1,85	1,90	-0,11			#N/A	#N/A		
	b	2489	0,00		#N/A			0,00	#N/A	0,00	0,00	
	b	2973	3,18	3,00	3,09	-0,18			#N/A	#N/A		
	c	3186	0,00		#N/A			0,00	#N/A	0,00	0,00	
	c	3187	0,00		#N/A			1,30	#N/A	0,65	1,30	
	c	3188	0,00		#N/A			1,00	#N/A	0,50	1,00	
	c	4050	0,00		#N/A			0,00	#N/A	0,00	0,00	
	c	4051	0,00		#N/A			0,00	#N/A	0,00	0,00	
	c	4052	1,84		#N/A		1,30			1,57	-0,54	#N/A
	c	4053	0,00		#N/A			0,00	#N/A	0,00	0,00	
	c	4222	0,00		#N/A			0,00	#N/A	0,00	0,00	
	c	4223	0,00		#N/A			0,00	#N/A	0,00	0,00	
	c	4224	1,45		#N/A			0,00	#N/A	0,73	-1,45	
	c	4225	1,24		#N/A			0,00	#N/A	0,62	-1,24	
	c	4324	1,15		#N/A			0,00	#N/A	0,58	-1,15	
	c	4325	0,00		#N/A			0,00	#N/A	0,00	0,00	
	c	4326	0,00		#N/A			0,00	#N/A	0,00	0,00	
	c	4327	1,77		#N/A		1,00			1,39	-0,77	#N/A
	c	4328	0,00		#N/A			0,00	#N/A	0,00	0,00	
	c	4503	3,09	3,20	3,15	0,12			#N/A	#N/A		
	c	4504	2,15	2,41	2,28	0,27			#N/A	#N/A		
	c	4505	2,38	2,38	2,38	0,00			#N/A	#N/A		
	c	4506	3,30	3,53	3,42	0,23			#N/A	#N/A		
	c	4507	2,49	2,62	2,56	0,13			#N/A	#N/A		
	c	4508	3,17	3,26	3,21	0,09			#N/A	#N/A		
Average category 2					0,01							
Standard deviation of differences category 2					0,33							

Category	Type	N°sample	Incubation : 40-48 h + 72 h									
			Log CFU/g		Average	Difference	Alternative method		Average <4 CFU/plate	Difference <4 CFU/plate	Average corrected values	Difference Corrected values
			Reference method	Alternative method			<4 CFU/plate	<or> threshold corrected values				
3	a	3524	3,00		#N/A		3,74		3,37	0,74	#N/A	
	a	4048	2,88	2,96	2,92	0,08			#N/A		#N/A	
	a	4221	2,04		#N/A		1,00		1,52	-1,04	#N/A	
	a	4933	2,79	3,20	3,00	0,41			#N/A		#N/A	
	a	2461	0,00		#N/A			0,00	#N/A	0,00	0,00	
	a	2462	0,00		#N/A			0,00	#N/A	0,00	0,00	
	a	2485	1,85	2,41	2,13	0,56			#N/A		#N/A	
	a	2486	2,41	2,45	2,43	0,03			#N/A		#N/A	
	a	2487	1,00		#N/A			1,00	#N/A	1,00	0,00	
	a	2994	3,08		#N/A		3,20		3,14	0,12	#N/A	
	a	2995	3,11	3,60	3,36	0,49			#N/A		#N/A	
	b	3176	2,00		#N/A			0,00	#N/A	1,00	-2,00	
	b	3179	3,00		#N/A			0,00	#N/A	1,50	-3,00	
	b	3519	5,04	4,71	4,87	-0,33			#N/A		#N/A	
	b	3520	2,95	2,85	2,90	-0,11			#N/A		#N/A	
	b	3521	3,34	3,28	3,31	-0,06			#N/A		#N/A	
	b	3522	3,60	3,64	3,62	0,04			#N/A		#N/A	
	b	3523	5,99	5,91	5,95	-0,08			#N/A		#N/A	
	b	4218	1,60		#N/A		1,30		1,45	-0,30	#N/A	
	b	4219	0,00		#N/A			1,00	#N/A	0,50	1,00	
	b	4226	1,00		#N/A			0,00	#N/A	0,50	-1,00	
	b	4331	3,63	3,68	3,66	0,05			#N/A		#N/A	
	b	4928	0,00		#N/A			1,00	#N/A	0,50	1,00	
	b	4929	1,60	1,85	1,72	0,24			#N/A		#N/A	
	c	3173	2,00		#N/A			4,20	#N/A	3,10	2,20	
	c	3174	1,00		#N/A			1,00	#N/A	1,00	0,00	
	c	3175	1,00		#N/A			1,00	#N/A	1,00	0,00	
	c	3513	3,04	3,86	3,45	0,82			#N/A		#N/A	
	c	3514	0,00		#N/A			0,00	#N/A	0,00	0,00	
	c	3515	3,46	3,08	3,27	-0,38			#N/A		#N/A	
	c	3516	2,94	2,94	2,94	0,00			#N/A		#N/A	
	c	3517	1,70	1,90	1,80	0,20			#N/A		#N/A	
	c	3518	0,00		#N/A			0,00	#N/A	0,00	0,00	
	c	4049	3,30		#N/A				#N/A		#N/A	
	c	4220	0,00		#N/A			0,00	#N/A	0,00	0,00	
	c	4329	3,51	2,86	3,18	-0,65			#N/A		#N/A	
	c	4330	0,00		#N/A			1,78	#N/A	0,89	1,78	
	c	4926	1,60		#N/A			0,00	#N/A	0,80	-1,60	
	c	4927	0,00		#N/A			0,00	#N/A	0,00	0,00	
	c	4930	0,00		#N/A			0,00	#N/A	0,00	0,00	
	c	4931	1,70		#N/A		1,48		1,59	-0,22	#N/A	
	c	4932	1,70	1,70	1,70	0,00			#N/A		#N/A	
	c	4934	1,90	1,60	1,75	-0,30			#N/A		#N/A	
	c	4935	1,30		#N/A			0,00	#N/A	0,65	-1,30	
Average category 3						0,05						
Standard deviation of differences category 3						0,35						
Average all categories			Dall			0,03						
Standard deviation of differences all categories			SDall			0,31						

n all 68
 β=95% $T(0,05;70)=$
 1,996008331 Upper limit
 0,613323678 Lower limit Linear
 Average (minimal value) 0,00 0,64 -0,59 0,03
 Average (maximal value) 10,00 0,64 -0,59 0,03

Category	n	T(0,05;70)=	SD	ISO formula	Bias	Lower limit (95%)	Upper limit (95%)
1	26	2,06	0,25	0,52	0,02	-0,50	0,54
2	23	2,07	0,33	0,71	0,01	-0,69	0,72
3	17	2,12	0,35	0,77	0,05	-0,72	0,82
All categories	68	2,00	0,31	0,61	0,03	-0,59	0,64

Appendix 6 - Accuracy profile study: raw data

Matrix	Strain	Level	Sample N°	Reference method: ISO 10272-2*				Alternative method: RAPID'Campylobacter				
								40 h at 41.5°C				
				Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/plate	CFU/g	log CFU/g	
Sausage - Batch 1 <i>Campylobacter coli</i> Ad1889 Aerobic mesophilic flora : $1,2 \cdot 10^7$ CFU/g			1	2779	10	9	90	1,95	10	11	110	2,04
					100	2		Ne	100	1		
				2780	10	5	50	1,70	10	5	50	1,70
					100	1		Ne	100	0		Ne
				2781	10	5	50	1,70	10	7	70	1,85
					100	0		Ne	100	1		Ne
			2	2782	10	11	100	2,00	10	5	50	1,70
					100	0			100	1		Ne
				2783	10	5	50	1,70	10	5	50	1,70
					100	0		Ne	100	1		Ne
				2784	10	64	680	2,83	10	46	500	2,70
					100	11			100	9		
			3	2785	10	54	530	2,72	10	57	570	2,76
					100	4			100	6		
				2786	10	49	520	2,72	10	47	530	2,72
					100	8			100	11		
				2787	10	62	620	2,79	10	51	540	2,73
					100	6			100	8		
				2788	10	40	410	2,61	10	55	540	2,73
					100	5			100	4		
				2789	100	89	9000	3,95	100	81	8100	3,91
					1000	10			1000	8		
				2790	100	50	5000	3,70	100	64	7200	3,86
					1000	5			1000	15		
			2791	100	14	1300	3,11	100	66	7400	3,87	
					1000	0			1000	15		
			2792	100	24	3100	3,49	100	70	7500	3,88	
					1000	10			1000	12		
			2793	100	42	4500	3,65	100	83	8300	3,92	
					1000	7			1000	8		

* Analyses performed according to the COFRAC accreditation

ADRIA Développement

65/87

December 28, 2021

Summary report (Version 0)

RAPID'Campylobacter

Matrix	Strain	Level	Sample N°	Reference method: ISO 10272-2*				Alternative method: RAPID'Campylobacter			
								40 h at 41.5°C			
				Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/plate	CFU/g	log CFU/g
Sausage - Batch 2 Aerobic mesophilic flora : $1,8 \cdot 10^7$ CFU/g	Campylobacter coli Ad1889	1	2794	10	7	70	1,85	10	6	60	1,78
				100	1			100	0		
			2795	10	5	50	1,70	10	4	40	1,60
				100	1			100	2		
			2796	10	6	60	1,78	10	5	50	1,70
				100	0			100	1		
		2	2797	10	7	70	1,85	10	4	40	1,60
				100	0			100	1		
			2798	10	10	100	2,00	10	4	40	1,60
				100	1			100	1		
			2799	10	41	430	2,63	10	65	640	2,81
				100	6			100	5		
			2800	10	51	520	2,72	10	61	660	2,82
				100	6			100	11		
		3	2801	10	41	390	2,59	10	40	430	2,63
				100	2			100	7		
			2802	10	44	450	2,65	10	52	560	2,75
				100	5			100	9		
			2803	10	70	690	2,84	10	44	640	2,81
				100	6			100	26		
			2804	100	51	5300	3,72	100	17	2000	3,30
				1000	7			1000	5		
			2805	100	76	7300	3,86	100	52	5400	3,73
				1000	4			1000	7		
			2806	100	60	6000	3,78	100	77	7500	3,88
				1000	6			1000	5		
			2807	100	70	6900	3,84	100	68	7300	3,86
				1000	6			1000	12		
			2808	100	38	4400	3,64	100	70	7100	3,85
				1000	10			1000	8		

* Analyses performed according to the COFRAC accreditation

Matrix	Strain	Level	Sample N°	Reference method: ISO 10272-2*				Alternative method: RAPID'Campylobacter			
								40 h at 41.5°C			
				Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/plate	CFU/g	log CFU/g
Raw poultry meat - Batch 1 Aerobic mesophilic flora : $3,0 \cdot 10^5$ CFU/g	Campylobacter jejuni Ad1021	1	2879	10	5	50	1,70 Ne	10	5	50	1,70 Ne
				100	0			100	0		
			2880	10	8	80	1,90 Ne	10	11	120	2,08
				100	0			100	2		
			2881	10	17	180	2,26	10	15	150	2,18
				100	3			100	1		
			2882	10	17	170	2,23	10	12	120	2,08
				100	2			100	1		
		2	2883	10	11	100	2,00	10	8	80	1,90 Ne
				100	0			100	0		
			2884	100	8	800	2,90 Ne	100	8	800	2,90 Ne
				1000	0			1000	2		
			2885	100	6	600	2,78 Ne	100	6	600	2,78 Ne
				1000	1			1000	1		
			2886	100	14	1500	3,18	100	14	1500	3,18
				1000	2			1000	3		
			2887	100	7	700	2,85 Ne	100	17	1800	3,26
				1000	1			1000	3		
		3	2888	100	5	500	2,70 Ne	100	17	1600	3,20
				1000	2			1000	1		
			3673	100	80	7500	3,88	100	96	9700	3,99
				1000	3			1000	11		
			3674	100	55	5500	3,74	100	94	9900	4,00
				1000	6			1000	15		
			3675	100	59	5900	3,77	100	91	10000	4,00
				1000	6			1000	20		
			3676	100	54	5700	3,76	100	74	8200	3,91
				1000	9			1000	16		
			3677	100	49	4900	3,69	100	98	9700	3,99
				1000	5			1000	9		

* Analyses performed according to the COFRAC accreditation

Matrix	Strain	Level	Sample N°	Reference method: ISO 10272-2*				Alternative method: RAPID'Campylobacter 40 h at 41.5°C			
				Dilution	CFU/ plate	CFU/g	log CFU/g	Dilution	CFU/ plate	CFU/g	log CFU/g
				10	13	130	2,11	10	8	80	1,90
Raw poultry meat - Batch 2 Aerobic mesophilic flora : 1,3 10 ³ CFU/g	Campylobacter jejuni Ad1021	1	2894	100	1			100	2		Ne
				10	12	120	2,08	10	10	140	2,15
			2895	100	1			100	5		
				10	12	130	2,11	10	4	40	1,60
			2896	100	2			100	0		Ne
				10	9	90	1,95	10	11	120	2,08
		2	2897	100	0			100	2		
				10	10	91	1,96	10	11	100	2,00
			2898	100	0			100	0		
				100	10	1200	3,08	100	14	1500	3,18
			2899	1000	3			1000	2		
				100	9	910	2,96	100	11	1100	3,04
			2900	1000	1			1000	1		
				100	9	910	2,96	100	12	1100	3,04
		3	2901	1000	1			1000	0		
				100	12	1200	3,08	100	8	800	2,90
			2902	1000	1			1000	0		Ne
				100	5	500	2,70	100	15	1500	3,18
			2903	1000	0			1000	2		
				100	69	7600	3,88	100	90	8800	3,94
			3293	1000	15			1000	7		
				100	49	5500	3,74	100	121	12000	4,08
			3294	1000	12			1000	8		
				100	92	9500	3,98	100	78	8800	3,94
			3295	1000	12			1000	19		
				100	150	14000	4,15	100	157	15000	4,18
			3296	1000	7			1000	9		
				100	107	11000	4,04	100	88	8500	3,93
			3297	1000	16			1000	5		

* Analyses performed according to the COFRAC accreditation

Matrix	Strain	Level	Sample N°	Reference method: ISO 10272-2*				Alternative method: RAPID'Campylobacter 40 h at 41.5°C			
				Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/plate	CFU/g	log CFU/g
Scalding water from poultry slaughterhouse - Batch 1 Aerobic mesophilic flora: <10 CFU/g	Campylobacter coli Ad1087	1	3567	10	7	70	1,85	10	24	280	2,45
			3567	100	1			100	7		
			3568	10	18	160	2,20	10	34	320	2,51
			3568	100	0			100	1		
			3569	10	38	380	2,58	10	52	500	2,70
			3569	100	4			100	3		
		2	3570	10	17	160	2,20	10	33	350	2,54
			3570	100	0			100	5		
			3571	10	16	150	2,18	10	13	150	2,18
			3571	100	0			100	3		
			3572	100	13	1400	3,15	100	30	3400	3,53
			3572	1000	2			1000	7		
		3	3573	100	9	910	2,96	100	21	2000	3,30
			3573	1000	1			1000	1		
			3574	100	8	730	2,86	100	26	2900	3,46
			3574	1000	0			1000	6		
			3575	100	23	2500	3,40	100	20	1900	3,28
			3575	1000	4			1000	1		
			3576	100	30	2700	3,43	100	39	3900	3,59
			3576	1000	0			1000	4		
			3834	1000	14	15000	4,18	1000	44	42000	4,62
			3834	10000	2			10000	2		
			3835	1000	14	14000	4,15	1000	27	28000	4,45
			3835	10000	1			10000	4		
			3836	1000	20	20000	4,30	1000	19	22000	4,34
			3836	10000	2			10000	5		
			3837	1000	25	25000	4,40	1000	21	22000	4,34
			3837	10000	2			10000	3		
			3838	1000	31	31000	4,49	1000	51	53000	4,72
			3838	10000	3			10000	7		

* Analyses performed according to the COFRAC accreditation

Matrix	Strain	Level	Sample N°	Reference method: ISO 10272-2*				Alternative method: RAPID'Campylobacter 40 h at 41.5°C			
				Dilution	CFU/plate	CFU/g	log CFU/g	Dilution	CFU/plate	CFU/g	log CFU/g
				10	18	190	2,28	10	25	260	2,41
Scalding water from poultry slaughterhouse - Batch 2 Aerobic mesophilic flora: <10 CFU/g	Campylobacter coli Ad1087	1	3582	100	3	210	2,32	100	4	300	2,48
				10	23			10	31		
			3583	100	0			100	2		
				10	18	160	2,20	10	25	260	2,41
				100	0			100	3		
		2	3585	10	21	200	2,30	10	22	240	2,38
				100	1			100	4		
			3586	10	15	140	2,15	10	39	390	2,59
				100	0			100	4		
			3587	100	34	3200	3,51	100	33	3800	3,58
				1000	1			1000	9		
		3	3588	100	18	1700	3,23	100	47	4500	3,65
				1000	1			1000	2		
			3589	100	18	1900	3,28	100	52	5100	3,71
				1000	3			1000	4		
			3590	100	34	3400	3,53	100	49	4900	3,69
				1000	3			1000	5		
			3591	100	11	1100	3,04	100	26	2700	3,43
				1000	1			1000	4		
			3844	1000	15	15000	4,18	1000	18	25000	4,40
				10000	1			10000	9		
			3845	1000	17	16000	4,20	1000	48	50000	4,70
				10000	1			10000	7		
			3846	1000	13	13000	4,11	1000	13	15000	4,18
				10000	1			10000	4		
			3847	1000	14	15000	4,18	1000	10	13000	4,11
				10000	2			10000	4		
			3848	1000	8	9100	3,96	1000	10	15000	4,18
				10000	2			10000	6		

* Analyses performed according to the COFRAC accreditation

Appendix 7 - Accuracy profile study: summarized results

40 h

(Food) Category 1		Meat and meat products										
(Food) Type 1		Pork sausage meat										
			Reference method result					Alternative method result				
Sample Name	(Food) item	Level	rep 1	rep 2	rep 3	rep 4	rep 5	rep 1	rep 2	rep 3	rep 4	rep 5
2779-2783	Pork sausage meat	1	90	50	50	100	50	110	50	70	50	50
2794-2798	Pork sausage meat	1	70	50	60	70	100	60	40	50	40	40
2784-2788	Pork sausage meat	2	680	530	520	620	410	500	570	530	540	540
2799-2803	Pork sausage meat	2	430	520	390	450	690	640	660	430	560	640
2789-2793	Pork sausage meat	3	9000	5000	1300	3100	4500	8100	7200	7400	7500	8300
2804-2808	Pork sausage meat	3	5300	7300	6000	6900	4400	2000	5400	7500	7300	7100

(Food) Category 2		Poultry and poultry products										
(Food) Type 2		White chicken meat										
			Reference method result					Alternative method result				
Sample Name	(Food) item	Level	rep 1	rep 2	rep 3	rep 4	rep 5	rep 1	rep 2	rep 3	rep 4	rep 5
2879-2883	White chicken meat	1	50	80	180	170	100	50	120	10	120	80
2894-2898	White chicken meat	1	130	120	130	90	91	80	140	40	120	100
2884-2888	White chicken meat	2	800	600	1500	700	500	800	600	1500	1800	1600
2899-2903	White chicken meat	2	1200	910	910	1200	500	1500	1100	1100	800	1500
3673-3677	White chicken meat	3	7500	5500	5900	5700	4900	9700	9900	10000	8200	9700
3293-3297	White chicken meat	3	7600	5500	9500	14000	11000	8800	12000	8800	15000	8500

(Food) Category 3		Environmental testing in food production sites										
(Food) Type 3		Process water (slaughter poultry)										
			Reference method result					Alternative method result				
Sample Name	(Food) item	Level	rep 1	rep 2	rep 3	rep 4	rep 5	rep 1	rep 2	rep 3	rep 4	rep 5
3567-3571	Process water (slaughter poultry)	1	70	160	380	160	150	280	320	500	350	150
3582-3586	Process water (slaughter poultry)	1	190	210	160	200	140	260	300	260	240	390
3572-3576	Process water (slaughter poultry)	2	1400	910	730	2500	2700	3400	2000	2900	1900	3900
3587-3591	Process water (slaughter poultry)	2	3200	1700	1900	3400	1100	3800	4500	5100	4900	2700
3834-3838	Process water (slaughter poultry)	3	15000	14000	20000	25000	31000	42000	28000	22000	22000	53000
3844-3848	Process water (slaughter poultry)	3	15000	16000	13000	15000	9100	25000	50000	15000	13000	15000

Appendix 8 – Inclusivity / Exclusivity: raw data

INCLUSIVITY										
	Strain	Reference	Origin	CBA	mCCDA	Rapid' <i>Campylobacter</i>		Confirmation		
				CFU/plate (a/b)	CFU/plate (a/b)	48 h (40 h for the renewal) CFU/plate (a/b)	Colonies description	<i>Campylobacter</i> confirm Latex	PCR IQ Check <i>Campylobacter</i>	
Initial validation study	1	<i>Campylobacter coli</i>	Ad1008	Poultry	26 / 33	25 / 15	20 / 24	Red brick colonies	+	+
	2	<i>Campylobacter coli</i>	Ad1009	Poultry	42 / 66	22 / 10	33 / 35	Red brick colonies	+	+
	3	<i>Campylobacter coli</i>	Ad1010	Poultry	52 / 62	35 / 11	38 / 34	Red brick colonies	+	+
	4	<i>Campylobacter coli</i>	Ad1011	Poultry	75 / 148	103 / 117	195 / 193	Red brick colonies	+	+
	5	<i>Campylobacter coli</i>	Ad1012	Poultry	29 / 41	11 / 31	36 / 37	Red brick colonies	+	+
	6	<i>Campylobacter coli</i>	Ad1024	Poultry	284 / 203	55 / 40	53 / 63	Red brick colonies	+	+
	7	<i>Campylobacter coli</i>	Ad1025	Poultry	149 / 105	36 / 62	26 / 149	Red brick colonies	+	+
	8	<i>Campylobacter coli</i>	CIP 70.80 ^T (ATCC33559)	Porcine feces	158 / 106	109 / 26	132 / 220	Red brick colonies	+	+
	9	<i>Campylobacter coli</i>	Ad1079	Poultry	30 / 47	8 / 6	11 / 15	Red brick colonies	+	+
	10	<i>Campylobacter coli</i>	Ad1087	Poultry	50 / 30	2 / 3	14 / 47	Red brick colonies	+	+
	11	<i>Campylobacter coli</i>	Ad1121	Porcine feces	19 / 27	3 / 0	53 / 44	Red brick colonies	+	+
	12	<i>Campylobacter coli</i>	Ad1122	Porcine feces	78 / 75	27 / 24	8 / 5	Red brick colonies	+	+
	13	<i>Campylobacter coli</i>	Ad1123	Porcine meat	100 / 152	20 / 5	49 / 52	Red brick colonies	+	+
	14	<i>Campylobacter coli</i>	Ad1477	Pork	48 / 74 (dil -6)	16 / 27 (dil -5)	196 / 79 (dil -5)	Red brick colonies	+	+
	15	<i>Campylobacter coli</i>	Ad1125	Poultry	89 / 120	51 / 76	59 / 162	Red brick colonies	+	+
	16	<i>Campylobacter jejuni</i>	Ad1015	Poultry	8 / 22	0 / 3	13 / 12	Red brick colonies	+	+
	17	<i>Campylobacter jejuni</i>	Ad1016	Poultry	8 / 18	23 / 4	46 / 32	Red brick colonies	+	+
	18	<i>Campylobacter jejuni</i>	Ad1021	Poultry	84 / 91	24 / 20	28 / 43	Red brick colonies	+	+
	19	<i>Campylobacter jejuni</i>	Ad1023	Poultry	38 / 58	23 / 24	30 / 20	Red brick colonies	+	+
	20	<i>Campylobacter jejuni</i>	Ad1076	Poultry	29 / 30	17 / 20	9 / 9	Red brick colonies	+	+

	INCLUSIVITY									
	Strain		Reference	Origin	CBA	mCCDA	Rapid' <i>Campylobacter</i>		Confirmation	
	CFU/plate (a/b)	CFU/plate (a/b)			48 h (40 h for the renewal) CFU/plate (a/b)	Colonies description	<i>Campylobacter</i> confirm Latex	PCR IQ Check <i>Campylobacter</i>		
	21	<i>Campylobacter</i> <i>jejuni</i>	Ad1078	Poultry	64 / 63	45 / 26	29 / 51	Red brick colonies	+	+
	22	<i>Campylobacter</i> <i>jejuni</i>	Ad1079	Poultry	21 / 20	8 / 5	9 / 14	Red brick colonies	+	+
	23	<i>Campylobacter</i> <i>jejuni</i>	Ad1080	Poultry	56 / 57	26 / 22	44 / 8	Red brick colonies	+	+
	24	<i>Campylobacter</i> <i>jejuni</i>	Ad1081	Poultry	37 / 49 (dil-6)	66 / 62 (dil-5)	80 / 61 (dil-5)	Red brick colonies	+	+
	25	<i>Campylobacter</i> <i>jejuni</i>	Ad1082	Poultry	62 / 94	42 / 47	65 / 68	Red brick colonies	+	+
	26	<i>Campylobacter</i> <i>jejuni</i>	Ad1083	Poultry	39 / 49	36 / 38	5 / 22	Red brick colonies	+	+
	27	<i>Campylobacter</i> <i>jejuni</i>	Ad1084	Poultry	106 / 92 (dil-6) 1 / 6 (dil-7)	18 / 18 (dil-6) 0 / 3 (dil-7)	325 / 266 (dil-6) 29 / 38 (dil-7)	Red brick colonies	+	+
	28	<i>Campylobacter</i> <i>jejuni</i>	Ad1085	Poultry	117 / 161	136 / 108	118 / 20	Red brick colonies	+	+
	29	<i>Campylobacter</i> <i>jejuni</i>	Ad1086	Poultry	180 / 162 (dil-5) 21 / 16 (dil-6)	89 / 90 (dil-5) 11 / 12 (dil-6)	39 / 79 (dil-5) 10 / 11 (dil-6)	Red brick colonies	+	+
	30	<i>Campylobacter</i> <i>jejuni</i>	Ad1089	Poultry	17 / 15	23 / 5	27 / 46	Red brick colonies	+	+
	31	<i>Campylobacter</i> <i>lari</i>	Ad1067	Poultry	65 / 64	36 / 20	51 / 64	Red brick colonies	- (2mn) (CBA: -)	+
	32	<i>Campylobacter</i> <i>lari</i>	Ad1130	/	56 / 49 (dil-6)	8 / 40 (dil-5) 1 / 2 (dil-6)	198 / 155 (dil-5) 22 / 20 (dil-6)	Red brick colonies	- (2mn) (CBA: -)	+
	33	<i>Campylobacter</i> <i>lari</i>	ATCC 35222	/	195 / 190 (dil -5) 34 / 15 (dil -6)	186 / 190 (dil -5) 32 / 33 (dil -6)	189 / 43 (dil -5) 2 / 5 (dil -6)	Red brick colonies	+ very weak reaction (2mn) (CBA: -)	+
	34	<i>Campylobacter</i> <i>lari</i>	CIP 102722T	/	>150 / >150 (dil -5) 44 / 34 (dil -6)	>150 / >150 (dil -5) 22 / 25 (dil -6)	2 / 1 (dil -5) 0 / 0 (dil -6)	Red brick colonies	+ (CBA: -)	+
	35	<i>Campylobacter</i> <i>lari</i> subsp. <i>concheus</i>	Ad1911	/	74 / 93 (dil -5) 8 / 17 (dil -6)	75 / 94 (dil -5) 13 / 11 (dil -6)	5 / 3 (dil -5) 2 / 4 (dil -6)	Red brick colonies	+ weak reaction (2mn) (CBA: -)	+

		INCLUSIVITY								
Strain		Reference	Origin	CBA	mCCDA	Rapid' <i>Campylobacter</i>		Confirmation		
				CFU/plate (a/b)	CFU/plate (a/b)	48 h (40 h for the renewal) CFU/plate (a/b)	Colonies description	<i>Campylobacter</i> confirm Latex	PCR IQ Check <i>Campylobacter</i>	
Renewal study	36	<i>Campylobacter coli</i>	Ad1072	Turkey neck skin	26	23	26	Red brick colonies	+	+
	37	<i>Campylobacter coli</i>	Ad1073	Turkey neck skin	23	19	11	Red brick colonies	+	+
	38	<i>Campylobacter coli</i>	Ad1074	Turkey neck skin	29	104	182	Red brick colonies	+	+
	39	<i>Campylobacter coli</i>	Ad1075	Turkey neck skin	18	100	96	Red brick colonies	+	+
	40	<i>Campylobacter coli</i>	Ad1077	Turkey neck skin	21	20	26	Red brick colonies	+	+
	41	<i>Campylobacter coli</i>	Ad1485	Pork faeces	34	15	18	Red brick colonies	+	+
	42	<i>Campylobacter jejuni</i>	Ad1131	Cail	50	41	52	Red brick colonies	+	+
	43	<i>Campylobacter jejuni</i>	Ad1892	Guinea fowl carcass	97	74	66	Small red brick colonies	+	+
	44	<i>Campylobacter jejuni</i>	Ad1979	River water	75	46	67	Red brick colonies	+	+
	45	<i>Campylobacter jejuni</i>	Ad1014	Chicken neck skin	76	49	85	Small red brick colonies	+	+
	46	<i>Campylobacter jejuni</i>	Ad1088	Chicken neck skin	94	94	47	Red brick colonies	+	+
	47	<i>Campylobacter jejuni</i>	Ad1013	Chicken skin	111	82	105	Red brick colonies	+	+
	48	<i>Campylobacter jejuni</i>	Ad1931	Free range chicken	92	76	87	Red brick colonies	+	+
	49	<i>Campylobacter jejuni</i>	Ad1932	Free range chicken	82	128	98	Red brick colonies	+	+
	50	<i>Campylobacter upsaliensis</i>	ATCC43954	Coproculture	63µcolonies	0	0	/	/	/
	51	<i>Campylobacter upsaliensis</i>	ATCC49816	Human faeces	23(-6)	38(-5) doubtful	0	/	/	/
	52	<i>Campylobacter upsaliensis</i>	CIP103681	Dog faeces	35(-6)	0(-5)	0(-5)	/	/	/
	53	<i>Campylobacter upsaliensis</i>	ATCC49815	Human faeces	14(-6)	0(-5)	0(-5)	/	/	/
	54	<i>Campylobacter upsaliensis</i>	Ad1139	Human faeces	28(-6)	28(-6) small, clear	0(-5)	/	/	/

EXCLUSIVITY											
	Strain		Reference	Origin	Control media	mCCDA	Rapid ^a Campylobacter	Confirmation			PCR IQ Check Campylobacter
					CFU/plate (a/b)	CFU/ plate (a/b)	48 h (40 h for the renewal) CFU/plate (a/b)	Colonies description	Campylobacter confirm Latex	Result	
Initial validation study	1	Acinetobacter	<i>baumanii</i>	Ad 1070	Poultry	74 / 49 (COS 41,5°C)	17 / 15	0 / 0	/	/	/ /
	2	Acinetobacter	<i>calcoaceticus</i>	Ad 1090	Poultry	25 / 42 (COS 41,5°C)	5 / 5	0 / 0	/	/	/ /
	3	Aeromonas	<i>hydrophila</i>	CIP 5750	/	26 / 23 (PCA 37°C)	0 / 0	0 / 0	/	/	/ /
	4	Arcobacter	<i>butzleri</i>	CIP 103493	/	104 / 64 (COS 30°C)	0 / 0	0 / 0	/	/	/ /
	5	Arcobacter	<i>cryoaerophilus</i>	CIP 104014	/	195 / 187 (COS 30°C)	0 / 0	0 / 0	/	/	/ /
	6	Vibrio	<i>alginolyticus</i>	Ad1888	Oyster	9 / 10 (COS 30°C)	0 / 0	0 / 0	/	/	/ /
	7	Campylobacter	<i>fetus</i>	Ad1069	Poultry	17/24(COS 25°C)	22/26	0 / 0	/	/	/ /
	8	Campylobacter	<i>fetus</i>	Ad1068	Poultry	103/136 (COS 25°C)	122/123	0 / 0	/	/	/ /
	9	Citrobacter	<i>freundii</i>	Ad 173	Poultry	211/215 (PCA 37°C)	0 / 0	0 / 0	/	/	/ /
	10	Enterobacter	<i>ergusoni</i>	2876	Environment	55/44 (PCA 37°C)	0 / 0	0 / 0	/	/	/ /
	11	Escherichia	<i>coli</i>	Ad 241	Poultry	29/34 (PCA 37°C)	0 / 0	0 / 0	/	/	/ /
	12	Escherichia	<i>coli</i>	CIP103982	/	19 / 28 (PCA 37°C)	0 / 0	0 / 0	/	/	/ /
	13	Enterococcus	<i>durans</i>	Ad 148	Ham	28/21 (PCA 37°C)	0 / 0	0 / 0	/	/	/ /
	14	Lactobacillus	<i>curvatus</i>	Ad 379	Pork meat	82/107 (MRS 30°C)	0 / 0	0 / 0	/	/	/ /
	15	Ochrobactrum	<i>pseudintermedius</i>	Ad 1058	Poultry	117 / 116 (COS 41,5°C)	74 / 62	0 / 0	/	/	/ /
	16	Pseudomonas	<i>aeruginosa</i>	20	Raw milk	59/41 (PCA 20°C)	0 / 0	0 / 0	/	/	/ /
	17	Ralstonia	<i>mannitolityca</i>	Ad 1059	Poultry	81 / 60 (COS 41,5°C)	24 / 15	46 / 36	Red brick colonies	+ (weak reaction at 2mn inconclusive result)	- /
	18	Staphylococcus	<i>aureus</i>	Ad 157	Poultry skin	137/133 (PCA 37°C)	0 / 0	0 / 0	/	/	/ /
	19	Arcobacter	<i>cryoaerophilus</i>	Ad1124	Chicken	15/14 (COS 30°C)	0 / 0	0 / 0	/	/	/ /
	20	Arcobacter	<i>butzleri</i>	Ad1126	Chicken	46 / 36 (COS 30°C)	0 / 0	0 / 0	/	/	/ /
	21	Ralstonia	<i>mannitolityca</i>	DSM-17512	/	31 / 21 (COS 41,5°C)	0 / 0	23 / 10	Red brick colonies	+ (inconclusive result)	- /

EXCLUSIVITY												
	Strain		Reference	Origin	Control media	mCCDA	Rapid' <i>Campylobacter</i>	Confirmation			PCR IQ Check <i>Campylobacter</i>	
					CFU/plate (a/b)	CFU/plate (a/b)	48 h (40 h for the renewal) CFU/plate (a/b)	Colonies description	<i>Campylobacter</i> confirm Latex	Result	Ct value	
Renewal study	22	<i>Acinetobacter calcoaceticus</i>	<i>calcoaceticus</i>	Ad1092	Chicken white meat	42(-6)	17(-6)	0(-5)	/	/	/	/
	23	<i>Aeromonas punctata</i>	<i>punctata</i>	Ad1329	Liquid egg	43(-6)	0(-4)	0(-4)	/	/	/	/
	24	<i>Aeromonas punctata</i>	<i>punctata</i>	Ad1517	Liquid egg	37(-6)	0(-4)	0(-4)	/	/	/	/
	25	<i>Arcobacter butzleri</i>	<i>butzleri</i>	Ad1881	Feathery swab	71(-7)	0(-3)	0(-2)	/	/	/	/
	26	<i>Arcobacter butzleri</i>	<i>butzleri</i>	Ad1126	Poultry	107(-4)	0(-3)	0(-2)	/	/	/	/
	27	<i>Citrobacter freundii</i>	<i>freundii</i>	Ad1326	Liquid egg	22(-6)	0(-6)	0(-5)	/	/	/	/
	28	<i>Escherichia coli</i>	<i>coli</i>	Ad1999	Chicken white meat	37(-7)	59(-7)	0(-5)	/	/	/	/
	29	<i>Escherichia coli</i>	<i>coli</i>	Ad224	Poultry	40(-6)	0(-6)	0(-5)	/	/	/	/
	30	<i>Staphylococcus aureus</i>	<i>aureus</i>	Ad158	Chicken leg	21(-7)	0(-6)	0(-5)	/	/	/	/
	31	<i>Staphylococcus aureus</i>	<i>aureus</i>	Ad159	Cutlet	33(-7)	0(-6)	0(-5)	/	/	/	/

Appendix 9 - Inter-laboratory: results obtained by the collaborators and the expert laboratory

Laboratory	Sample N°	Reference method: ISO / TS 10272-2					Alternative method: RAPID'Campylobacter							
		Dilution	CFU/plate before confirmation	CFU/plate (confirmed)	CFU/g	log CFU/g	Dilution	44 h ± 4 h				CFU/plate (confirmed)	CFU/g	log CFU/g
								CFU/plate before confirmation	Latex	Confirmatory tests	PCR (iQ)			
Aerobic mesophilic flora 3,0.10 ⁷ /g	A4	10	48	48	450	<1.00	10	0	/	/	0	<10	<1.00	
		100	1	1			100	0	/	/	0			
	A5	10	9	9	90	1.95	10	0	/	/	0	<10	<1.00	
		100	0	0	Ne	Ne	100	0	/	/	0			
	A3	100	12	12	1100	3.04	10	69	+	/	69	650	2.81	
		1000	0	0			100	2	+	/	2			
	A8	10	120	120	1300	3.11	10	73	+	/	73	720	2.86	
		100	19	19			100	6	+	/	6			
	A2	1000	10	10	9100	3.96	100	78	+	/	78	7400	3.87	
		10000	0	0			1000	3	+	/	3			
	A7	100	79	79	7700	3.89	100	65	+	/	65	6200	3.79	
		1000	6	6			1000	3	+	/	3			
	A1	1000	81	81	85000	4.93	1000	21	+	/	21	25000	4.40	
		10000	12	12			10000	6	+	/	6			
	A6	1000	94	94	88000	4.94	1000	44	+	/	44	45000	4.65	
		10000	3	3			10000	6	+	/	6			
Aerobic mesophilic flora 8,3.10 ⁶ CFU/g	B4	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00	
		100	0	0			100	0	/	/	0			
	B5	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00	
		100	0	0			100	0	/	/	0			
	B3	10	119	119	1200	3.08	10	128	+	+	128	1300	3.11	
		100	12	12			100	13	+	+	13			
	B8	10	153	153	1500	3.18	10	154	+	+	154	1600	3.20	
		100	16	16			100	18	+	+	18			
	B2	100	73	73	7300	3.86	100	85	+	+	85	8500	3.93	
		1000	7	7			1000	9	+	+	9			
	B7	100	113	113	12000	4.08	100	113	+	+	113	11000	4.04	
		1000	14	14			1000	12	+	+	12			
	B1	1000	101	101	100000	5.00	1000	50	+	+	50	54000	4.73	
		10000	13	13			10000	9	+	+	9			
	B6	1000	99	99	100000	5.00	1000	83	+	+	83	85000	4.93	
		10000	11	11			10000	10	+	+	10			

Laboratory	Sample N°	Reference method: ISO / TS 10272-2					Alternative method: RAPID'Campylobacter							
		Dilution	CFU/plate before confirmation	CFU/plate (confirmed)	CFU/g	log CFU/g	Dilution	44 h ± 4 h		CFU/plate (confirmed)	CFU/g	log CFU/g		
								CFU/plate before confirmation	Latex	PCR (iQ)				
Aerobic mesophilic flora 1.9.10 ⁷ /g	C	C4	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
			100	0	0			100	0	/	/	0		
	C	C5	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
			100	0	0			100	0	/	/	0		
	C	C3	10	70	70	730	2.86	10	21	+	+	21	200	2.30
			100	10	10			100	1	+	+	1		
	C	C8	10	96	96	960	2.98	10	56	+	+	56	520	2.72
			100	10	10			100	1	+	+	1		
	C	C2	100	80	80	7800	3.89	10	203	+	+	203	2000	3.30
			1000	6	6			100	22	+	+	22		
	C	C7	100	76	76	8200	3.91	100	57	+	+	57	5700	3.76
			1000	14	14			1000	6	+	+	6		
	C	C1	1000	79	79	84000	4.92	1000	13	+	+	13	14000	4.15
			10000	13	13			10000	2	+	+	2		
	C	C6	1000	73	73	76000	4.88	1000	49	+	+	49	49000	4.69
			10000	11	11			10000	5	+	+	5		
Aerobic mesophilic flora 1.5.10 ⁷ /g	D	D4	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
			100	0	0			100	0	/	/	0		
	D	D5	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
			100	0	0			100	0	/	/	0		
	D	D3	10	84	84	870	2.94	10	47	+	/	47	460	2.66
			100	12	12			100	4	+	/	4		
	D	D8	10	102	102	1000	3.00	10	71	+	/	71	690	2.84
			100	8	8			100	5	+	/	5		
	D	D2	100	99	99	9700	3.99	100	85	+	/	85	8400	3.92
			1000	8	8			1000	7	+	/	7		
	D	D7	100	88	88	8700	3.94	100	67	+	/	67	6600	3.82
			1000	7	8			1000	6	+	/	6		
	D	D1	1000	89	89	81000	4.91	1000	81	+	/	81	76000	4.88
			10000	0	0			10000	3	+	/	3		
	D	D6	1000	82	82	82000	4.91	1000	80	+	/	80	76000	4.88
			10000	8	8			10000	4	+	/	4		

Laboratory	Sample N°	Reference method: ISO / TS 10272-2					Alternative method: RAPID'Campylobacter							
		Dilution	CFU/plate before confirmation	CFU/plate (confirmed)	CFU/g	log CFU/g	Dilution	CFU/plate before confirmation	Confirmatory tests		CFU/plate (confirmed)	CFU/g	log CFU/g	
44 h ± 4 h														
E	E4	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00	
		100	0	0			100	0	/	/	0			
	E5	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00	
		100	0	0			100	0	/	/	0			
	E3	10	103	103	980	2.99	10	119	+	/	119	1100	3.04	
		100	4	4			100	1	+	/	1			
	E8	10	61	61	610	2.79	10	91	+	/	91	860	2.93	
		100	6	6			100	4	+	/	4			
	E2	100	64	64	5900	3.77	100	18	+	/	18	1700	3.23	
		1000	1	1			1000	1	+	/	1			
F	E7	100	58	58	5600	3.75	100	71	+	/	71	7200	3.86	
		1000	4	4			1000	8	+	/	8			
	E1	1000	23	23	23000	4.36	100	155	+	/	155	15000	4.18	
		10000	2	2			1000	14	+	/	14			
	E6	1000	28	28	26000	4.41	100	170	+	/	170	16000	4.20	
		10000	1	1			1000	6	+	/	6			
	F4	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00	
		100	0	0			100	0	/	/	0			
Aerobic mesophilic flora >3,0.10 ⁷ /g	F5	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00	
		100	0	0			100	0	/	/	0			
	F3	10	80	64	640	2.81	10	17	+	+	17	170	2.23	
		100	6	6			100	2	+	+	2			
	F8	10	98	78	760	2.88	10	24	+	+	24	250	2.40	
		100	6	5			100	3	+	+	3			
	F2	100	26	26	2500	3.40	10	140	+	+	140	1400	3.15	
		1000	1	1			100	10	+	+	10			
	F7	100	81	65	6500	3.81	100	49	+	+	49	4800	3.68	
		1000	9	7			1000	4	+	+	4			
	F1	100	183	183	19000	4.28	100	112	+	+	112	11000	4.04	
		1000	23	23			1000	10	+	+	10			
	F6	1000	78	31	31000	4.49	100	120	+	+	120	12000	4.08	
		10000	4	3			1000	10	+	+	10			

Laboratory	Sample N°	Reference method: ISO / TS 10272-2				Alternative method: RAPID'Campylobacter							
		Dilution	CFU/plate before confirmation	CFU/plate (confirmed)	CFU/g	log CFU/g	Dilution	CFU/plate before confirmation	44 h ± 4 h		CFU/plate (confirmed)	CFU/g	log CFU/g
								Latex	PCR (iQ)				
Aerobic mesophilic flora >3,0.10 ⁸ /g	G4	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
		100	0	0			100	0	/	/	0		
	G5	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
		100	0	0			100	0	/	/	0		
	G3	10	62	62	680	2.83	10	17	+	+	17	160	2.20
		100	13	13			100	0	+	+	0		
	G8	10	74	74	730	2.86	10	28	+	+	28	260	2.41
		100	6	6			100	0	+	+	0		
	G2	100	84	84	7700	3.89	10	231	+	+	231	2500	3.40
		1000	1	1			100	32	+	+	32		
Aerobic mesophilic flora 7,0.10 ⁶ /g	G7	100	65	65	6000	3.78	10	362	+	+	362	3400	3.53
		1000	1	1			100	13	+	+	13		
	G1	1000	36	36	34000	4.53	100	115	+	+	115	11000	4.04
		10000	1	1			1000	5	+	+	5		
	G6	1000	60	24	25000	4.40	1000	10	+	+	10	9100	3.96
		10000	3	3			10000	0	+	+	0		
	H4	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
		100	0	0			100	0	/	/	0		
	H5	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
		100	0	0			100	0	/	/	0		
Aerobic mesophilic flora 7,0.10 ⁶ /g	H3	10	109	109	1100	3.04	10	63	+	+	63	620	2.79
		100	16	16			100	5	+	+	5		
	H8	10	80	80	790	2.90	10	75	+	+	75	750	2.88
		100	7	7			100	7	+	+	7		
	H2	100	36	36	4300	3.63	100	66	+	+	66	6900	3.84
		1000	11	11			1000	10	+	+	10		
	H7	100	97	97	9400	3.97	100	74	+	+	74	7400	3.87
		1000	6	6			1000	7	+	+	7		
	H1	1000	77	77	75000	4.88	1000	43	+	+	43	41000	4.61
		10000	6	6			10000	2	+	+	2		
H6	1000	100	100	100000	5.00	1000	42	+	+	42	41000	4.61	
	10000	10	10			10000	3	+	+	3			

Laboratory	Sample N°	Reference method: ISO / TS 10272-2					Alternative method: RAPID'Campylobacter							
		Dilution	CFU/plate before confirmation	CFU/plate (confirmed)	CFU/g	log CFU/g	Dilution	CFU/plate before confirmation	Confirmatory tests		CFU/plate (confirmed)	CFU/g	log CFU/g	
								44 h ± 4 h						
Aerobic mesophilic flora 8,3.10 ⁵ /g	J4	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00	
		100	0	0			100	0	/	/	0			
	J5	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00	
		100	0	0			100	0	/	/	0			
	J3	10	97	97	910	2.96	10	64	+	/	64	660	2.82	
		100	3	3			100	9	+	/	9			
	J8	10	74	74	740	2.87	10	58	+	/	58	570	2.76	
		100	7	7			100	5	+	/	5			
	J2	100	45	45	4900	3.69	10	131	+	/	131	1400	3.15	
		1000	9	9			100	23	+	/	23			
Aerobic mesophilic flora 7,3.10 ⁷ /g	J7	100	32	32	4100	3.61	10	166	+	/	166	1700	3.23	
		1000	13	13			100	20	+	/	20			
	J1	100	130	130	14000	4.15	100	128	+	/	128	13000	4.11	
		1000	26	26			1000	12	+	/	12			
	J6	1000	48	48	51000	4.71	1000	30	+	/	30	34000	4.53	
		10000	8	8			10000	7	+	/	7			
	K4	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00	
		100	0	0			100	0	/	/	0			
	K5	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00	
		100	0	0			100	0	/	/	0			
K	K3	10	129	129	1300	3.11	10	33	+	+	33	400	2.60	
		100	11	11			100	11	+	+	11			
	K8	10	135	135	1400	3.15	10	43	+	+	43	490	2.69	
		100	16	16			100	11	+	+	11			
	K2	100	148	148	15000	4.18	100	83	+	+	83	8200	3.91	
		1000	18	18			1000	7	+	+	7			
	K7	100	142	142	15000	4.18	100	66	+	+	66	6800	3.83	
		1000	18	18			1000	9	+	+	9			
	K1	1000	125	125	130000	5.11	1000	73	+	+	73	69000	4.84	
		10000	13	13			10000	3	+	+	3			
K6	1000	108	108	110000	5.04	1000	47	+	+	47	47000	4.67		
	10000	18	18			10000	5	+	+	5				

Laboratory	Sample N°	Reference method: ISO / TS 10272-2				Alternative method: RAPID'Campylobacter							
		Dilution	CFU/plate before confirmation	CFU/plate (confirmed)	CFU/g	log CFU/g	Dilution	CFU/plate before confirmation	Confirmatory tests	CFU/plate (confirmed)	CFU/g	log CFU/g	
44 h ± 4 h													
Aerobic mesophilic flora 2,8.10 ⁶ /g	L4	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
		100	0	0			100	0	/	/	0		
	L5	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
		100	0	0			100	0	/	/	0		
	L3	10	268	268	2500	3.40	10	90	+	+	90	850	2.93
		100	9	9			100	3	+	+	3		
	L8	10	340	340	3100	3.49	10	131	+	+	131	1200	3.08
		100	6	6			100	4	+	+	4		
	L2	100	73	73	7100	3.85	100	17	+	+	17	1600	3.20
		1000	5	5			1000	1	+	+	1		
	L7	100	71	71	7200	3.86	100	16	+	+	16	1700	3.23
		1000	8	8			1000	3	+	+	3		
	L1	1000	105	105	99000	5.00	100	159	+	+	159	15000	4.18
		10000	4	4			1000	6	+	+	6		
	L6	1000	84	84	81000	4.91	1000	22	+	+	22	20000	4.30
		10000	5	5			10000	0	+	+	0		
Aerobic mesophilic flora >3,0.10 ⁷ CFU/g	M4	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
		100	0	0			100	0	/	/	0		
	M5	10	3	0	<10	<1.00	10	0	/	/	0	<10	<1.00
		100	0	0			100	0	/	/	0		
	M3	10	23	14	130	2.11	10	24	+	+	24	230	2.36
		100	0	0			100	1	/	+	1		
	M8	10	15	15	160	2.20	10	29	+	+	29	270	2.43
		100	3	3			100	1	/	+	1		
	M2	10	94	75	780	2.89	10	167	+	+	167	1500	3.18
		100	11	11			100	1	/	+	1		
	M7	10	197	158	1500	3.18	100	44	+	+	44	4200	3.62
		100	9	9			1000	2	/	/	2		
	M1	100	82	82	7800	3.89	100	68	+	+	68	6200	3.79
		1000	4	4			1000	0	/	/	0		
	M6	100	32	32	3100	3.49	100	49	+	+	49	4600	3.66
		1000	2	2			1000	2	/	/	2		

Laboratory	Sample N°	Reference method: ISO / TS 10272-2					Alternative method: RAPID'Campylobacter							
		Dilution	CFU/plate before confirmation	CFU/plate (confirmed)	CFU/g	log CFU/g	Dilution	CFU/plate before confirmation		Confirmatory tests		CFU/plate (confirmed)	CFU/g	log CFU/g
44 h ± 4 h														
Aerobic mesophilic flora 1,1.10 ⁸ CFU/g	N4	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00	
		100	0	0			100	0	/	/	0			
	N5	10	3	0	<10	<1.00	10	0	/	/	0	<10	<1.00	
		100	0	0			100	0	/	/	0			
	N3	10	42	26	250	2.40	10	36	+	/	36	350	2.54	
		100	2	1			100	2	+	/	2			
	N8	10	109	88	860	2.93	10	77	+	/	77	790	2.90	
		100	8	6			100	10	+	/	10			
	N2	10	291	291	2700	3.43	10	199	+	/	199	1800	3.26	
		100	4	4			100	2	+	/	2			
Aerobic mesophilic flora 7,2.10 ⁷ CFU/g	N7	100	57	57	5600	3.75	100	46	+	/	46	4800	3.68	
		1000	5	5			1000	7	+	/	7			
	N1	100	57	46	4200	3.62	100	106	+	/	106	9600	3.98	
		1000	0	0			1000	0	/	/	0			
	N6	1000	42	42	41000	4.61	1000	16	+	/	16	20000	4.30	
		10000	3	3			10000	6	+	/	6			
	O4	10	6	?			10	/	/	/	0	/	/	
		100	0	?			100	/	/	/	0			
	O5	10	3	?			10	/	/	/	0	/	/	
		100	0	?			100	/	/	/	0			
	O3	10	90	?			10	/	+	+	/	/	/	
		100	7	?			100	/	/	/	/			
	O8	10	88	?			10	/	+	+	/	/	/	
		100	14	?			100	/	/	/	/			
	O2	100	42	?			100	/	+	+	/	/	/	
		1000	3	?			1000	/	/	/	/			
	O7	100	58	?			100	/	+	+	/	/	/	
		1000	6	?			1000	/	/	/	/			
	O1	1000	78	?			100	/	+	+	/	/	/	
		10000	8	?			1000	/	+	+	/			
	O6	1000	43	?			100	/	+	+	/	/	/	
		10000	3	?			1000	/	+	+	/			

Laboratory	Sample N°	Reference method: ISO / TS 10272-2				Alternative method: RAPID'Campylobacter							
		Dilution	CFU/plate before confirmation	CFU/plate (confirmed)	CFU/g	log CFU/g	Dilution	CFU/plate before confirmation	Confirmatory tests	CFU/plate (confirmed)	CFU/g	log CFU/g	
44 h ± 4 h													
Aerobic mesophilic flora 5,3.10 ⁵ CFU/g	P4	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
		100	0	0			100	0	/	/	0		
	P5	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
		100	0	0			100	0	/	/	0		
	P3	10	29	29	260	2.41	10	43	+	/	43	410	2.61
		100	0	0			100	2	+	/	2		
	P8	10	76	76	710	2.85	10	66	+	/	66	650	2.81
		100	2	2			100	5	+	/	5		
	P2	10	260	260	2500	3.40	10	291	/	/	291	2800	3.45
		100	10	10			100	14	+	/	14		
	P7	100	37	37	3600	3.56	100	55	+	/	55	5300	3.72
		1000	3	3			1000	3	+	/	3		
	P1	100	80	80	7400	3.87	100	89	/	/	89	10000	4.00
		1000	1	1			1000	22	+	/	22		
	P6	100	90	90	8500	3.93	1000	13	+	/	13	14000	4.15
		1000	3	3			10000	2	+	/	2		
Aerobic mesophilic flora /g	Q4	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
		100	0	0			100	0	/	/	0		
	Q5	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
		100	0	0			100	0	/	/	0		
	Q3	10	126	126	1200	3.08	10	65	+	/	65	660	2.82
		100	10	10			100	8	+	/	8		
	Q8	10	108	108	1100	3.04	10	63	+	/	63	640	2.81
		100	12	12			100	7	+	/	7		
	Q2	100	75	75	7600	3.88	100	52	+	/	52	5100	3.71
		1000	9	9			1000	4	+	/	4		
	Q7	100	115	115	11000	4.04	100	44	+	/	44	4300	3.63
		1000	9	9			1000	3	+	/	3		
	Q1	1000	90	90	93000	4.97	1000	49	+	/	49	47000	4.67
		10000	12	12			10000	3	+	/	3		
	Q6	1000	93	93	88000	4.94	1000	34	+	/	34	36000	4.56
		10000	4	4			10000	6	+	/	6		

Laboratory	Sample N°	Reference method: ISO / TS 10272-2				Alternative method: RAPID'Campylobacter						
		Dilution	CFU/plate before confirmation	CFU/plate (confirmed)	CFU/g	log CFU/g	Dilution	CFU/plate before confirmation	Confirmatory tests	CFU/plate (confirmed)	CFU/g	log CFU/g
44 h ± 4 h												
Aerobic mesophilic flora 2.5.10 ⁷ /g	S	S4	10	0	0	<10	<1.00	10	/	/	<10	<1.00
			100	0	0			100	/	/		
	S5		10	0	0	<10	<1.00	10	/	/	<10	<1.00
			100	0	0			100	/	/		
	S3		10	116	116	1400	3.15	10	3	+	<40 (detection)	<1.60 (detection)
			100	35	35			100	1	+		
	S8		10	121	121	1200	3.08	10	19	+	180	2.26
			100	10	10			100	1	+		
	S2		100	37	37	3700	3.57	10	32	+	330	2.52
			1000	4	4			100	4	+		
	S7		100	24	24	3100	3.49	100	16	+	1600	3.20
			1000	10	10			1000	2	+		
	S1		1000	22	22	21000	4.32	100	52	+	4900	3.69
			10000	1	1			1000	2	+		
	S6		1000	151	151	140000	5.15	1000	27	+	25000	4.40
			10000	8	8			10000	1	+		
Aerobic mesophilic flora 2.8.10 ⁷ /g	T	T4	10	0	0	<10	<1.00	10	/	/	<10	<1.00
			100	0	0			100	/	/		
	T5		10	0	0	<10	<1.00	10	/	/	<10	<1.00
			100	0	0			100	/	/		
	T3		100	10	10	1800	3.26	10	182	+	1700	3.23
			1000	0	0			100	5	+		
	T8		100	15	15	1500	3.18	10	292	+	2700	3.43
			1000	1	1			100	9	+		
	T2		100	83	83	8400	3.92	100	73	+	7500	3.88
			1000	9	9			1000	10	+		
	T7		100	76	76	7700	3.89	100	70	+	6600	3.82
			1000	9	9			1000	3	+		
	T1		1000	60	60	60000	4.78	1000	69	+	70000	4.85
			10000	6	6			10000	8	+		
	T6		1000	98	98	100000	5.00	1000	92	+	95000	4.98
			10000	12	12			10000	12	+		

Laboratory	Sample N°	Reference method: ISO / TS 10272-2				Alternative method: RAPID'Campylobacter							
		Dilution	CFU/plate before confirmation	CFU/plate (confirmed)	CFU/g	log CFU/g	Dilution	CFU/plate before confirmation	Confirmatory tests	CFU/plate (confirmed)	CFU/g	log CFU/g	
44 h ± 4 h													
Aerobic mesophilic flora 3,4.10 ⁶ /g	U4	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
		100	0	0			100	0	/	/	0		
	U5	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
		100	0	0			100	0	/	/	0		
	U3	10	100	100	1000	3.00	10	83	+	+	83	810	2.91
		100	10	10			100	6	+	+	6		
	U8	10	104	104	1000	3.00	10	54	+	+	54	550	2.74
		100	10	10			100	6	+	+	6		
	U2	100	117	117	11000	4.04	100	58	+	+	58	5700	3.76
		1000	7	7			1000	5	+	+	5		
	U7	100	161	161	15000	4.18	100	56	+	+	56	5500	3.74
		1000	9	9			1000	5	+	+	5		
	U1	1000	192	192	180000	5.26	1000	73	+	+	73	70000	4.85
		10000	5	5			10000	4	+	+	4		
	U6	1000	134	134	130000	5.11	1000	66	+	+	66	65000	4.81
		10000	9	9			10000	6	+	+	6		
Aerobic mesophilic flora 2,2.10 ⁷ CFU/g	V4	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
		100	0	0			100	0	/	/	0		
	V5	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
		100	0	0			100	0	/	/	0		
	V3	10	125	125	1200	3.08	10	68	+	+	68	660	2.82
		100	2	2			100	5	+	+	5		
	V8	10	98	98	960	2.98	10	74	+	+	74	750	2.88
		100	7	7			100	8	+	+	8		
	V2	100	48	48	5000	3.70	100	42	+	+	42	4300	3.63
		1000	7	7			1000	5	+	+	5		
	V7	100	78	78	8100	3.91	100	19	+	+	19	1800	3.26
		1000	11	11			1000	1	+	+	1		
	V1	1000	103	103	99000	5.00	1000	28	+	+	28	25000	4.40
		10000	6	6			10000	0	/	/	0		
	V6	1000	54	54	50000	4.70	1000	80	+	+	80	78000	4.89
		10000	1	1			10000	6	+	+	6		

Laboratory	Sample N°	Reference method: ISO / TS 10272-2*					Alternative method: RAPID'Campylobacter						
		Dilution	CFU/plate before confirmation	CFU/plate (confirmed)	CFU/g	log CFU/g	Dilution	CFU/plate before confirmation	Confirmatory tests		CFU/plate (confirmed)	CFU/g	log CFU/g
44 h ± 4 h													
W = ADRIA Aerobic mesophilic flora: 7,4.10 ⁶ /g	W4	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
		100	0	0			100	0	/	/	0		
	W5	10	0	0	<10	<1.00	10	0	/	/	0	<10	<1.00
		100	0	0			100	0	/	/	0		
	W3	10	95	95	900	2.95	10	77	+	+	77	730	2.86
		100	4	4			100	3	+	+	3		
	W8	10	118	118	1200	3.08	10	83	+	+	83	790	2.90
		100	14	14			100	4	+	+	4		
	W2	100	77	77	7400	3.87	100	87	+	+	87	8500	3.93
		1000	4	4			1000	7	+	+	7		
	W7	100	55	55	6300	3.80	100	22	+	+	22	2500	3.40
		1000	14	14			1000	5	+	+	5		
	W1	100	74	74	7800	3.89	1000	77	+	+	77	70000	4.85
		1000	12	12			10000	0	/	/	0		
	W6	1000	44	44	40000	4.60	1000	111	+	+	111	110000	5.04
		10000	0	0			10000	6	+	+	6		

* Analyses performed according to the COFRAC accreditation

ADRIA Développement

Summary report (Version 0)

RAPID'Campylobacter