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NF VALIDATION
Validation of alternative analytical methods
Application in food microbiology

Renewal Study Report
Validation study according to the NF EN ISO 16140-2:2016

Solus *Listeria* ELISA for the detection of *Listeria* spp.
(Certificate number: SOL 37/02 - 06/13)
in food products and environmental samples

Qualitative method

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This report consists of 78 pages, including 8 appendices.
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Confidential

Version 1
July 17, 2017
Cancels and replaces the previous version
which must be returned to ADRIA Développement
or destroyed internally.

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The modifications are highlighted.

Quality Assurance documents related to this study can be consulted upon request from **Solus Scientific Solutions Limited**.

The technical protocol and the result interpretation were realised according to the EN ISO 16140-2:2016 and the AFNOR technical rules (revision 5).

Validation protocols	NF EN ISO 16140-2 (June 2016) : Microbiology of the food chain - Method validation *Part 1: Vocabulary* *Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method* AFNOR Technical Rules (Revision n° 5)
Reference method♦	- NF EN ISO 11290-1 (February 1997) : Microbiology of food and animal feeding stuffs - Horizontal method for the detection and enumeration of *Listeria monocytogenes* - Part 1: detection method - NF EN ISO 11290-1/A1 (February 2005)
Alternative method	**Solus *Listeria* ELISA**
Scope	**All human food products** **Production environmental samples**
Certification organism	AFNOR Certification (http://nf-validation.afnor.org/)

♦ Analyses performed according to the COFRAC accreditation

1 INTRODUCTION

The **Solus *Listeria* ELISA method** was validated in 2013 with the certificate number SOL 37/02 - 06/13 for the detection of *Listeria* spp. in food samples and environmental samples according to the EN ISO 16140 (2003).
The certificate expires on the 18th of June 2017.

This report concerns the renewal study according to the EN ISO 16140-2:2016.

2 METHODS PROTOCOLS

2.1 Alternative method

2.1.1 Principle

The Solus *Listeria* ELISA test system is based on the ELISA principle.

2.1.2 Protocol

The flow diagram of the alternative method is provided in **Appendix 1**. The protocol is described as followed:

- Pre-enrichment step (25 g + 225 ml) in Half Fraser broth for 24 h ± 2 h at 30°C ± 1°C
- Selective enrichment step: subculture of 0.2 ml of Half Fraser into 10 ml of RELM broth; incubation 24 h ± 2 h at 30°C ± 1°C
- Heat treatment of an aliquot of RELM broth
- ELISA test

The confirmation of the positive results could be done according to the following protocols:

- Streaking the non-heated RELM (10 µl) onto one selective agar plate, additional confirmation of the observed characteristic colonies could be done by running catalase and Gram tests or biochemical gallery on isolated colonies;
- Running the ISO confirmation tests.

It is possible to store the selective enrichment storage (RELM) for 72 h at 5 ± 3°C in order to offer sufficient practicability to the users.

2.1.3 Restriction

There is no restriction.

2.2 Reference method◆

The reference method corresponds to the NF EN ISO 11290-1/A1 (February 2005): Microbiology of food and animal feeding stuffs - Horizontal method for the detection and enumeration of *Listeria monocytogenes* –
Part 1: detection method (See **Appendix 2**).

3 INITIAL VALIDATION AND 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. Three parts were tested during this study:

- ***Sensitivity study;***
- ***Relative limit of detection;***
- ***Inclusivity and exclusivity study.***

3.1.1 Study design

It is a paired study design as the reference and the alternative methods have common enrichment procedures.

3.1.2 Sensitivity study

The sensitivity (SE) is the ability of the method to detect the analyte by either the reference or alternative method.

3.1.2.1 Number and nature of samples

343 samples were analysed in 2013; in agreement with the AFNOR technical committee, no sample was removed.

◆ Analysis performed according to the COFRAC accreditation

In 2017, 97 additional samples were tested as part of the renewal study. Combining the different studies (initial and renewals), 193 positive and 247 negative samples were obtained for a total of 440 samples.

The distribution per food category and type are summarised in Table 1.

Table 1 - Distribution per food category and type

Category		Type		Positive samples	Negative samples	Total
1	Composite foods	a	RTE	11	15	26
		b	RTRH	11	10	21
		c	Pastries, egg products	11	12	23
			Total	33	37	70
2	Meat products	a	Raw	14	9	23
		b	RTE	8	15	23
		c	Delicatessen	10	13	23
			Total	32	37	69
3	Dairy products	a	Raw milk	11	9	20
		b	Raw milk cheese	10	29	39
		c	Desserts, milk, powders, ice creams, pasteurised milk cheese	9	11	20
			Total	30	49	79
4	Seafood	a	Raw fish	8	15	23
		b	Smoked and cured fish	8	13	21
		c	RTE	17	11	28
			Total	33	39	72
5	Vegetables	a	Fresh and frozen vegetables	13	9	22
		b	Spices, aromatic herbs	11	26	37
		c	Ready to eat foods	7	15	22
			Total	31	50	81
6	Environmental Samples	a	Process water	8	13	21
		b	Sponges, swabs,	17	8	25
		c	Dusts, residues	9	14	23
			Total	34	35	69
All categories				**193**	**247**	**440**

The distribution of positive samples per target analyte is given in Table 2.

Table 2 – Distribution per target analytes

Category	*Listeria spp* (A)		*Listeria spp* + *Listeria monocytogenes* (B)		Total (A+B)		*Listeria monocytogenes* (C)		Total positive samples
	Number of samples	%	Number of samples	%	Number of samples	%	Number of samples	%	
1	10	30,3%	5	15,2%	15	45,5%	18	54,5%	33
2	8	25,0%	11	34,4%	19	59,4%	13	40,6%	32
3	7	23,3%	8	26,7%	15	50,0%	15	50,0%	30
4	5	15,2%	10	30,3%	15	45,5%	18	54,5%	33
5	12	38,7%	10	32,3%	22	71,0%	9	29,0%	31
6	17	50,0%	14	41,2%	31	91,2%	3	8,8%	34
Total	**59**	**30,6%**	**58**	**30,1%**	**117**	**60,6%**	**76**	**39,4%**	**193**

3.1.2.2 Artificial contamination of samples

The strains were stressed using various injury protocols. The injury efficiency was evaluated by comparing enumeration done onto selective media (Palcam plates) and non-selective media (TSYE plates). The artificial contaminations are presented in **Appendix 3**.

67 samples were artificially contaminated, 43 gave a positive result. 150 samples were naturally contaminated.

The repartition of the positive samples per contamination (natural and artificial) is given in Table 3.

Table 3 – Repartition of the positive natural and artificial contaminated samples

	Positive samples				
	Naturally contaminated	Spiking (CFU/sample)			Total
		<5 CFU	5<x<10	10<x<10,2	
Samples number	150	32	8	3	193
Percentage	78 %	17 %	4 %	2 %	100 %

Taking into account the two studies, 78 % of the samples were naturally contaminated.

3.1.2.3 Protocols run during the study

Incubation time

The minimum incubation times were applied:

- Half Fraser: 22 h;
- RELM: 22 h.

Confirmations

All the samples (positive and negative) were confirmed by streaking the RELM broth onto O&A and Palcam plates. The typical colonies were confirmed by the tests described in the reference method on isolated colonies: Gram, catalase, biochemical galleries. The tested biochemical gallery was the Microgen (MID-67).

- ***Enrichment broth storage at 5°C ± 3°C***

The selective enrichment broth (RELM) from positive samples was tested again after storage for 72 h at 5°C ± 3°C.

3.1.2.4 Test results

Raw data per category are given in **Appendix 4**. The results are given in the following table.

Table 4 – Summary of results obtained with the reference and the alternative methods

Category		Type		PA	NA	PD	ND	PPND	PPNA
1	Composite foods	a	RTE	11	15	0	0	0	0
		b	RTRH	11	10	0	0	0	0
		c	Pastries, egg products	11	12	0	0	0	0
		Total		33	37	0	0	0	0
2	Meat products	a	Raw	14	9	0	0	0	0
		b	RTE	8	15	0	0	0	0
		c	Delicatessen	8	13	2	0	0	0
		Total		30	37	2	0	0	0
3	Dairy products	a	Raw milk	11	9	0	0	0	0
		b	Raw milk cheese	8	29	1	1	0	0
		c	Desserts, milk, powders, ice creams, pasteurised milk cheese	9	11	0	0	0	0
		Total		28	49	1	1	0	0
4	Seafood	a	Raw fish	8	15	0	0	0	0
		b	Smoked and cured fish	8	13	0	0	0	0
		c	RTE	17	11	0	0	0	0
		Total		33	39	0	0	0	0
5	Vegetables	a	Fresh and frozen vegetables	13	9	0	0	0	0
		b	Spices, aromatic herbs	8	25	3	0	0	1
		c	Ready to eat foods	7	15	0	0	0	0
		Total		28	49	3	0	0	1
6	Environmental Samples	a	Process water	8	13	0	0	0	0
		b	Sponges, swabs,	17	8	0	0	0	0
		c	Dusts, residues	9	12	0	0	0	2
		Total		34	33	0	0	0	2
All categories				**186**	**244**	**6**	**1**	**0**	**3**

PA = positive agreement (R+/A+)
PD = positive deviation (R-/A+)
PP = positive presumptive non confirmed samples
NA = negative agreement (A-/R-)
ND = negative deviation (A-/R+)

3.1.2.5 Calculation of relative trueness (RT), sensitivity (SE) and false positive ratio (FPR)

The results were calculated taking into account all the confirmation protocols. The results are presented in **Table 5**.

Table 5 – Calculation of the relative trueness (RT), the sensitivity (SE) and the false positive ratio (FPR)

Category		Type		PA	NA	PD	ND	PPND	PPNA	SE $_{alt}$ %	SE $_{ref}$ %	RT %	FPR %
1	Composite foods	a	RTE	11	15	0	0	0	0	100,0	100,0	100,0	0,0
		b	RTRH	11	10	0	0	0	0	100,0	100,0	100,0	0,0
		c	Pastries, egg products	11	12	0	0	0	0	100,0	100,0	100,0	0,0
		Total		33	37	0	0	0	0	100,0	100,0	100,0	0,0
2	Meat products	a	Raw	14	9	0	0	0	0	100,0	100,0	100,0	0,0
		b	RTE	8	15	0	0	0	0	100,0	100,0	100,0	0,0
		c	Delicatessen	8	13	2	0	0	0	100,0	80,0	91,3	0,0
		Total		30	37	2	0	0	0	100,0	93,8	97,1	0,0
3	Dairy products	a	Raw milk	11	9	0	0	0	0	100,0	100,0	100,0	0,0
		b	Raw milk cheese	8	29	1	1	0	0	90,0	90,0	94,9	0,0
		c	Desserts, milk, powders, ice creams, pasteurised milk cheese	9	11	0	0	0	0	100,0	100,0	100,0	0,0
		Total		28	49	1	1	0	0	96,7	96,7	97,5	0,0
4	Seafood	a	Raw fish	8	15	0	0	0	0	100,0	100,0	100,0	0,0
		b	Smoked and cured fish	8	13	0	0	0	0	100,0	100,0	100,0	0,0
		c	RTE	17	11	0	0	0	0	100,0	100,0	100,0	0,0
		Total		33	39	0	0	0	0	100,0	100,0	100,0	0,0
5	Vegetables	a	Fresh and frozen vegetables	13	9	0	0	0	0	100,0	100,0	100,0	0,0
		b	Spices, aromatic herbs	8	25	3	0	0	1	100,0	72,7	91,9	4,0
		c	Ready to eat foods	7	15	0	0	0	0	100,0	100,0	100,0	0,0
		Total		28	49	3	0	0	1	100,0	90,3	96,3	2,0
6	Environmental Samples	a	Process water	8	13	0	0	0	0	100,0	100,0	100,0	0,0
		b	Sponges, swabs,	17	8	0	0	0	0	100,0	100,0	100,0	0,0
		c	Dusts, residues	9	12	0	0	0	2	100,0	100,0	100,0	16,7
		Total		34	33	0	0	0	2	100,0	100,0	100,0	5,7
All categories				**186**	**244**	**6**	**1**	**0**	**3**	**99,5**	**96,9**	**98,4**	**1,2**

The results obtained for all the categories are the following (See **Table 6**).

Table 6 - Summary of results

	EN ISO 16140-2:2016 Formula	Results for all the categories (%)
Sensitivity for the alternative method	$SE_{alt} = \frac{(PA+PD)}{(PA+ND+PD)} \times 100\%$	99.5 %
Sensitivity for the reference method	$SE_{ref} = \frac{(PA+ND)}{(PA+ND+PD)} \times 100\%$	96.9 %
Relative trueness	$RT = \frac{(PA+NA)}{N} \times 100\%$	98.4 %
False positive ratio for the alternative method* FP = PPNA + PPND	$FPR = \frac{(FP)}{NA} \times 100\%$	1.2 %

** With ND = ND + PPND NA = NA + PPNA*

3.1.2.6 Analysis of discordant results

Seven discordant results were observed: one negative deviation and six positive deviations; they are listed in Tables 7 and 8.

Table 7 - Negative deviation

Sample n°	Product	ELISA test result	Confirmatory tests	Contamination (contamination level)
2381	Raw milk cheese	0.034 (-)	+	Artificial *Listeria ivanovii* Ad 1289 (4.6)

Table 8 - Positive deviations

Year of analysis	Sample n°	Product	ELISA test result	Confirmatory tests	Contamination (contamination level)
2013	1738	Cocktail sausages	0.202 (+)	+	Natural *Listeria seeligeri*
	1754	Parsley	2.933 (+)	+	Natural *Listeria innocua* *Listeria monocytogenes*
	1755	Parsley	2.918 (+)	+	Natural *Listeria innocua*
	3457	Dehydrated onions	2.189 (+)	+	Artificial *Listeria seeligeri* Ad 1293 (2.6)
	2709	Raw milk cheese (Livord)	0.578 (+)	+	Artificial *Listeria innocua* 906
2017	2948	Delicatessen	2.184	+	Natural *Listeria welshimeri*

For the negative deviation, it was possible to recover the strain from the enrichment broth. The detection level of the alternative method was probably not reached; the inoculated strain (*Listeria ivanovii* Ad1289) was detected by the assay in the inclusivity study.

The analyses of discordant results according to the EN ISO 16140-2:2016 is the following (See Table 9).

Table 9 - Analyses of discordant results

Category		Type		PD	ND	PPND	(ND+PPND)-PD	AL	(ND+PPND)+PD	AL
1	Composite foods	a	RTE	0	0	0				
		b	RTRH	0	0	0				
		c	Pastries, egg products	0	0	0				
		Total		0	0	0	0	3	0	6
2	Meat products	a	Raw	0	0	0				
		b	RTE	0	0	0				
		c	Delicatessen	2	0	0				
		Total		2	0	0	-2	3	2	6
3	Dairy products	a	Raw milk	0	0	0				
		b	Raw milk cheese	1	1	0				
		c	Desserts, milk, powders, ice creams, pasteurised milk cheese	0	0	0				
		Total		1	1	0	0	3	2	6
4	Seafood	a	Raw fish	0	0	0				
		b	Smoked and cured fish	0	0	0				
		c	RTE	0	0	0				
		Total		0	0	0	0	3	0	6
5	Vegetables	a	Fresh and frozen vegetables	0	0	0				
		b	Spices, aromatic herbs	3	0	0				
		c	Ready to eat foods	0	0	0				
		Total		3	0	0	-3	3	3	6
6	Environmental Samples	a	Process water	0	0	0				
		b	Sponges, swabs,	0	0	0				
		c	Dusts, residues	0	0	0				
		Total		0	0	0	0	3	0	6
All categories				**6**	**1**	**0**	**-5**	**5**	**7**	**14**

The observed values for ((ND + PPND)-PD) and (ND + PPND + PD) are lower than the Acceptability Limit (AL) for each category and for all the categories.

3.1.2.7 Confirmations

Confirmations were realized by streaking the RELM broth onto two selective agars, i.e. O&A and Palcam plates. Characteristic colonies were observed on the two plates, except for 12 samples:

- For samples n° 1217, 1544, 1738, 2298, 2713, 3098, 3185, 3187, 3194, 3459 and 3463, characteristic colonies were observed only on O&A plates;
- For sample n° 1545, characteristic colonies were observed only on Palcam plates.

The characteristic colonies were confirmed by running catalase and Gram tests, and biochemical galleries on isolated colonies. No discordant results were observed.

Note that for two samples (cheese) in negative agreement (2380 and 2381), *Listeria* strain (*Listeria ivanovii*) was recovered on O&A and Palcam. This was probably due to a slower growth of this strain.

3.1.2.8 RELM storage at 5 ± 3°C for 72 h

Only one result modification was observed during RELM storage. This concerns the sample n° 1738 which result moves from a positive deviation (OD: 0.202) to a negative agreement (OD: 0.170). The following results are observed (See Table 10).

Table 10 - Enrichment broth storage at 5°C ± 3°C for 72 h

Category		Type		PD	ND	PPND	(ND+PPND)-PD	AL	ND+PPND+PD	AL
1	Composite foods	a	RTE	0	0	0				
		b	RTRH	0	0	0				
		c	Pastries, egg products	0	0	0				
		Total		0	0	0	0	3	0	6
2	Meat products	a	Raw	0	0	0				
		b	RTE	0	0	0				
		c	Delicatessen	1	0	0				
		Total		1	0	0	-1	3	1	6
3	Dairy products	a	Raw milk	0	0	0				
		b	Raw milk cheese	1	1	0				
		c	Desserts, milk, powders, ice creams, pasteurised milk cheese	0	0	0				
		Total		1	1	0	0	3	2	6
4	Seafood	a	Raw fish	0	0	0				
		b	Smoked and cured fish	0	0	0				
		c	RTE	0	0	0				
		Total		0	0	0	0	3	0	6
5	Vegetables	a	Fresh and frozen vegetables	0	0	0				
		b	Spices, aromatic herbs	3	0	0				
		c	Ready to eat foods	0	0	0				
		Total		3	0	0	-3	3	3	6
6	Environmental Samples	a	Process water	0	0	0				
		b	Sponges, swabs,	0	0	0				
		c	Dusts, residues	0	0	0				
		Total		0	0	0	0	3	0	6
All categories				**5**	**1**	**0**	**-4**	**5**	**6**	**14**

The observed values for ((ND + PPND)-PD) and (ND + PPND + PD) are lower than the Acceptability Limit (AL) for each category and for all the categories.

3.1.3 Relative detection level

The relative level of detection is the level of detection at P = 0.50 (LOD_{50}) of the alternative (proprietary) method divided by the level of detection at P = 0.50 (LOD_{50}) of the reference method.

The RLOD is defined as the ratio of the alternative and reference methods:

$$RLOD = \frac{LOD_{Alt.}}{LOD_{Ref.}}$$

3.1.4 Experimental design

During the initial validation study, five (matrix/strain) pairs were analysed by the reference method and by the alternative method.

During the renewal study (2017), one matrix/strain pair was analysed by the reference and the alternative methods (See Table 11).

For the six matrices analysed in 2013, six replicates were done per inoculation level and a minimum of 4 inoculation levels were tested. The contaminations and enumerations were realized according to the AFNOR technical rules (protocol for low level inoculations). The samples were analysed by both methods and the background microflora was enumerated.

For the deli salad matrix, the RLOD was carried out during the renewal study (2017) according to the EN ISO 16140-2:2016.

Table 11 - Defined (matrix/strain) pairs for the RLOD determination

Year of analysis	Category	Matrix	Inoculated strain	Origin	Study design
2017	Composite foods	Deli salad with ham	*Listeria monocytogenes* Ad1494	Pork meat	Paired
2013	Meat products	Rillettes	*Listeria monocytogenes* Ad669	Rillettes	Paired
	Dairy products	Raw milk	*Listeria ivanovii* Ad991	Raw milk cheese	Paired
	Seafood	Smoked salmon	*Listeria innocua* 1	Smoked salmon	Paired
	Vegetables	Zucchini	*Listeria seeligeri* Ad 1293	Parsley	Paired
	Environmental samples	Process water	*Listeria monocytogenes* 877/113	Surface	Paired

3.1.5 Calculation and interpretation of the RLOD

The raw data are given in **Appendix 5.**

The RLOD calculations were performed using the Excel spreadsheet available at http://standards.iso.org/iso/16140 - RLOD (clause 5-1-4-2 Calculation and interpretation of RLOD) version 06.07.2015. The RLOD are given in Table 12.

Table 12 – Presentation of RLOD before and after confirmation of the alternative method results

Name	RLOD	RLODL	RLODU	b=ln(RLOD)	sd(b)	z-Test statistic	p-value
Deli-salad/ *Listeria monocytogenes* Ad1494	1.000	0.466	2.145	0.000	0.382	0.000	1.000
Rillettes / *Listeria monocytogenes* Ad669	1.000	0.382	2.616	0.000	0.481	0.000	1.000
Raw milk / *Listeria ivanovii* Ad991	1.000	0.466	2.146	0.000	0.382	0.000	1.000
Smoked salmon / *Listeria innocua* 1	1.000	0.368	2.718	0.000	0.500	0.000	1.000
Zucchini / *Listeria seeligeri* Ad1293	1.000	0.462	2.163	0.000	0.386	0.000	1.000
Process water / *Listeria monocytogenes* 877/113	1.000	0.456	2.195	0.000	0.393	0.000	1.000
Combined	1.000	0.720	1.389	0.000	0.164	0.000	1.000

The RLOD are lower than the acceptability limit (AL) fixed at 1.5 for a paired study design for all the matrix/strain pairs tested.

3.1.6 Inclusivity / exclusivity

Inclusivity is the ability of the alternative method to detect the target analyte from a wide range of strains. Exclusivity is the lack of interference from a relevant range of non-target strains of the alternative method.

3.1.6.1 Test protocols

- *Inclusivity: Listeria spp.* strains cultures were performed in BHI medium at 37°C. Dilutions were done in order to inoculate 10 cells/225 ml Half Fraser. The Solus *Listeria* ELISA test was performed after subculture in RELM.

- *Exclusivity:* Negative strains cultures were performed in BHI at 37°C. Dilutions were realised in order to inoculate 10^5 cells/ml buffered peptone water. The Solus *Listeria* ELISA test was performed on the BPW.

3.1.6.2 Results

Raw data are given in **Appendix 6**.

- *Inclusivity*

50 strains were tested, all gave positive results except the 2 tested wild *Listeria grayi* strains (Ad 1198 and Ad 1443) which gave negative results whatever the inoculation level and the tested enrichment conditions (with or without adding milk in the Half Fraser broth). Only few typical colonies were observed on O&A plates for the reference method. It is commonly recognized that this species is difficult to recover, even with the ISO method.

When the strains were grown in BHI broth and directly tested by the alternative method, a positive result was obtained.

The observed results are thus probably due to the fact that the strains are not able to grow or show low growth rates in RELM.

Note: the 2 Listeria grayi strains were identified by 16S rDNA sequencing, as well as using the GeneDisc Listeria identification kit.

- *Exclusivity*

None of the 30 strains tested gave a positive result.

3.1.7 Practicability

Solus *Listeria* ELISA method practicability was evaluated according to the AFNOR criteria relative to method comparison study.

Storage conditions and shelf-life	The storage temperature is: 2-8°C. The shelf-life is given on the package. All the reagents must be stored at the temperature mentioned on the package.		
Time to result	Steps	**Reference Method**	**Alternative method**
	Negative samples		
	Sampling Half Fraser	D0	D0
	Fraser / RELM	D1	D1
	ELISA test	/	D2
	First streaking onto O&A and Palcam plates	D1	/
	Second streaking onto O&A and Palcam plates	D3	/
	Reading plates (first streaking)	D2 – D3	/
	Reading plates (second streaking)	D4 – D5	/
	Final result	D4 – D5	D2
	Presumptive positive or positive results		
	Streaking RELM onto O&A and Palcam plates	/	D2
	Reading plates	/	D3 – D4
	Subculture of typical colonies onto TSAYE	D2 – D5	/
	Confirmatory test	D3 – D6	/
	Final result	D4 – D7 D8 – D11 (1)	D3 – D4
	(1) In the case of the Rhamnose and Xylose tests are realised in tubes.		
Common step with the reference method	Enrichment in Half Fraser broth		

3.1.8 *Method comparison study conclusion*

The **methods comparative study conclusions** are:

- ❒ The Solus *Listeria* ELISA method shows satisfying sensitivity.
- ❒ The RLOD are below the acceptability limit fixed at 1.5 for a paired study design for each category and for all the categories.
- ❒ The Solus *Listeria* ELISA method is selective and specific. But while the device is able to detect the 2 tested *Listeria grayi* strains, when testing pure cultures in non-selective broth, this is not the case after a selective enrichment in the RELM broth. Note that these 2 strains showed only few colonies on the O&A plates after the Half Fraser step only.
- ❒ The negative results are available in 2 days and the positive results in 3 or 4 days.
- ❒ The alternative method fulfils all the EN ISO 16140-2:2016 and the AFNOR technical rules.

3.2 Inter-laboratory study organisation and results

3.2.1 *Study organisation*

- *Collaborators number*

Samples were sent to 14 laboratories.

- *Matrix and strain used*

The study was done with fresh goat cheese inoculated with *Listeria monocytogenes* 153.

- *Samples*

Samples were inoculated and sent on Monday 8th April 2013, as described below:

- 24 codified samples for the research of *Listeria spp*. by both Solus *Listeria* ELISA and the reference method (NF EN ISO 11290-1/A1),

- 1 sample for aerobic mesophilic flora enumeration by EN ISO 4833 method,

- 1 water flask labelled “Temperature Control” with a temperature probe.

The analyses were started on Wednesday 10th April 2013.

- *Inoculation*

The targeted inoculation levels were:

- 0 CFU/25 ml,
- 1 – 10 CFU/25 ml,
- 5 – 50 CFU/25 ml.

8 samples were prepared per inoculation level, per method and per laboratory. Each laboratory received 24 samples to analyze by both Solus *Listeria* ELISA and the NF EN ISO 11290-1/A1 reference method.

- *Labelling and shipping*

Blinded samples were placed in isothermal boxes, which contained cooling blocks, and express-shipped to the different laboratories.

A temperature control flask containing a sensor was added to the package in order to register the temperature profile during the transport, the package delivery and storage until analyses.

Samples were shipped in 24 h to 72 h to the involved laboratories. The temperature conditions had to stay lower or equal to 8.4°C during transport, and between 0°C – 8.4°C in the labs.

- *Analyses*

Collaborators and ADRIA Développement carried out the analyses with the alternative and reference methods at Day 2.

3.2.2 *Experimental parameters control*

3.2.2.1 *Strain stability*

- *Before inoculation*

In order to detect *Listeria spp.*, the NF EN ISO 11290-1 method was performed on five cheese test portions (25 g) before the inoculation. All the results were negative.

- *Sample stability*

Sample stability was checked by inoculating the matrix at 300 CFU/g and 5 CFU/g. Enumerations were performed for the high contamination level and detection analyses were performed for the low contamination level. *Triplicata* were analysed, and the results were the following (See Table 13):

Table 13 - Sample stability

Day	Reference method (detection)			CFU/g (XLD)			Aerobic mesophilic flora (CFU/g)
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	
Day 0	+	+	+	270	360	220	$1.0\ 10^7$
Day 1	+	+	+	340	260	280	$2.2\ 10^7$
Day 2	+	+	+	220	250	180	$1.0\ 10^7$

No evolution was observed during storage at 4°C.

3.2.2.2 *Contamination levels*

The contamination levels were the following (See Table 14)

Table 14 - Contamination levels

Level	Samples	Theoretical target level (b/25 g)	True level (b/25 g sample)	Low limit / 25 g sample	High limit / 25 g sample
Level 0	2 – 8 - 10 – 12 – 15 – 16 – 20 - 23	0	/	/	/
Low level	6 – 7 – 9 – 11 – 14 – 19 – 21 - 24	5	5.4	4.6	6.1
High level	1 – 3 – 4 – 5 – 13 – 17 – 18 - 22	25	28.6	24.7	32.8

3.2.2.3 Logistic conditions

Temperature conditions are given in Table 15.

Table 15 - Sample temperatures at receipt

Laboratories	Temperature measured by the probe (°C)	Temperature measured at receipt (°C)	Receipt date and time	
A	4.0	5.1	Day 2 (10/04/2013)	*15h00*
B	2.5	7.6	Day 2 (10/04/2013)	*12h49*
C	3.0	3.9	Day 1 (09/04/2013)	*14h30*
D	2.5	3.0	Day 1 (09/04/2013)	*13h15*
E	1.0	2.8	Day 1 (09/04/2013)	*06h30*
F	2.0	3.8	Day 1 (09/04/2013)	*12h30*
G	3.0	5.5	Day 1 (09/04/2013)	*10h00*
H	2.0	4.0	Day 1 (09/04/2013)	*10h15*
I	0.5	5.2	Day 1 (09/04/2013)	*15h15*
J	**11.5**	**8.5**	**Day 3 (11/04/2013)**	*11h00*
K	2.5	*7.0*	Day 1 (09/04/2013)	*11h45*
L	2.0	5.0	Day 1 (09/04/2013)	*12h16*
M	1.5	4.3	Day 1 (09/04/2013)	*10h52*
N	2.0	3.9	Day 1 (09/04/2013)	*08h30*

3.2.2.4 Conclusion

No problem was encountered during the transport or at receipt for 13 labs. Lab J received its package on Thursday 11th April 2013; its results were not taken into account for the interpretation.

3.2.3 Results analysis

3.2.3.1 Expert lab results

The raw data are given in **Appendix 7**. A summary is given in Table 16.

Table 16 – Results obtained by the expert Lab.

Level	Reference method	Alternative method
L0	0/8	0/8
L1	8/8	8/8
L2	8/8	8/8

3.2.3.2 Results observed by the collaborative laboratories

- ***Aerobic mesophilic flora enumeration***

Depending on the Lab results, the enumeration levels varied from 2.6 10^5 to 2.8 10^7 CFU/g.

- ***Listeria spp. detection***

14 Labs participated to the study. Lab J analysed the samples at Day 3; their results were not taken into account.

All the raw data are given in **Appendix 8**.

The results obtained for the reference and the alternative methods are provided in Table 17 (reference method) and Table 18 (alternative method).

Table 17 - Positive results by the reference method (ALL the collaborators)

Laboratory	Contamination levels		
	L0	L1	L2
A	0	8	8
B	0	8	8
C	0	8	8
D	0	8	8
E	0	8	8
F	0	8	8
G	0	8	8
H	0	8	8
I	0	8	8
J (analysis at Day3)	0	8	8
K	0	8	8
L	0	8	8
M	0	8	8
N	0	8	8
Total	**$P_0 = 0$**	**$P_1 = 112$**	**$P_2 = 112$**

Table 18 - Positive results (before and after confirmation) by the alternative method (ALL the collaborators)

Laboratory	Contamination levels					
	L0		L1		L2	
	Before confirmation	*After confirmation*	*Before confirmation*	*After confirmation*	*Before confirmation*	*After confirmation*
A	0	0	8	8	8	8
B	0	0	8	8	8	8
C	0	0	8	8	8	8
D	0	0	8	8	8	8
E	0	0	8	8	8	8
F	0	0	8	8	8	8
G	0	0	8	8	8	8
H	0	0	8	8	8	8
I	0	0	8	8	8	8
J (analysis at Day3)	0	0	8	8	8	8
K	0	0	8	8	8	8
L	0	0	8	8	8	8
M	0	0	8	8	8	8
N	0	0	8	8	8	8
Total	**$P_0 = 0$**	**$CP_0 = 0$**	**$P_1 = 112$**	**$CP_1 = 112$**	**$P_2 = 112$**	**$CP_2 = 112$**

3.2.3.3 Results of the Labs retained for interpretation

The results obtained with the 13 labs kept for interpretation are presented in Table 19 (reference method) and Table 20 (alternative method).

Table 19 - Positive results by the reference method (Without Lab J)

Laboratory	Contamination levels		
	L0	L1	L2
A	0	8	8
B	0	8	8
C	0	8	8
D	0	8	8
E	0	8	8
F	0	8	8
G	0	8	8
H	0	8	8
I	0	8	8
K	0	8	8
L	0	8	8
M	0	8	8
N	0	8	8
Total	**$P_0 = 0$**	**$P_0 = 104$**	**$P_0 = 104$**

Table 20 - Positive results (before and after confirmation) by the alternative methods (Without Lab J)

Laboratory	Contamination levels					
	L0		L1		L2	
	Before confirmation	*After confirmation*	*Before confirmation*	*After confirmation*	*Before confirmation*	*After confirmation*
A	0	0	8	8	8	8
B	0	0	8	8	8	8
C	0	0	8	8	8	8
D	0	0	8	8	8	8
E	0	0	8	8	8	8
F	0	0	8	8	8	8
G	0	0	8	8	8	8
H	0	0	8	8	8	8
I	0	0	8	8	8	8
K	0	0	8	8	8	8
L	0	0	8	8	8	8
M	0	0	8	8	8	8
N	0	0	8	8	8	8
Total	**$P_0 = 0$**	**$CP_0 = 0$**	**$P_1 = 104$**	**$CP_1 = 104$**	**$P_2 = 104$**	**$CP_2 = 104$**

3.2.4 *Calculation and interpretation*

3.2.4.1 Calculation of the specificity percentage (SP

The percentage specificities (SP) of the reference method and of the alternative method, using the data after confirmation, based on the results of level L0 are the following (See **Table 21**).

Table 21 - Percentage specificity

Specificity for the reference method	$SP_{ref} = \left(1 - \left(\frac{P_0}{N\_}\right)\right) x\ 100\ \% =$	100.0 %
Specificity for the alternative method	$SP_{alt} = \left(1 - \left(\frac{CP_0}{N\_}\right)\right) x\ 100\ \% =$	100.0 %

N: number of all L0 tests
P_0 = total number of false-positive results obtained with the blank samples before confirmation
CP_0 = total number of false-positive results obtained with the blank samples

3.2.4.2 Calculation of the sensitivity (SEalt), the sensitivity for the reference method (SEref), the relative trueness (RT) and the false positive ratio for the alternative method (FPR)

Fractional positive results were obtained for the low inoculation level (L1). These results were retained for calculation.

A summary of the results of the collaborators retained for interpretation, and obtained with the reference and the alternative methods for Level 1 is provided in **Table 22**.

Table 22 - Summary of the obtained results with the reference method and the alternative method for Level 1

Response	Reference method positive (R+)	Reference method negative (R-)
Alternative method positive (A+)	Positive agreement (A+/R+) **PA = 104**	Positive deviation (R-/A+) **PD = 0**
Alternative method negative (A-)	Negative deviation (A-/R+) **ND = 0 (PPND = 0)**	Negative agreement (A-/R-) **NA = 0 (PPNA = 0)**

Based on the data summarized in **Table 22**, the values of sensitivity of the alternative and reference methods, as well as the relative trueness and false

positive ratio for the alternative method taking account the confirmations, are the following (See **Table 23**):

Table 23

Sensitivity for the alternative method:	$SE_{alt} = \frac{(PA+PD)}{(PA+PD+ND)} x\ 100\% =$	100.0 %
Sensitivity for the reference method:	$SE_{ref} = \frac{(PA+ND)}{(PA+PD+ND)} x\ 100\% =$	100.0 %
Relative trueness	$RT = \frac{(PA+NA)}{N} x\ 100\% =$	100.0 %
False positive ratio for the alternative method	$FPR = \frac{FP}{NA} x\ 100\% =$	/

3.2.4.3 Interpretation of data

For a **paired study design**, the difference between (ND – PD) and the addition (ND + PD) are calculated for the level(s) where fractional recovery is obtained (so L_1 and possibly L_2). The observed value found for (ND – PD) and (ND + PD) shall not be higher than the AL.

For 13 Labs, the limits are the following:

	Calculated values	AL	Conclusion
ND - PD	0	4	ND - PD < AL
ND + PD	0	5	ND + PD < AL

The EN ISO 16140-2:2016 requirements are fulfilled as (ND - PD) and (ND + PD) are below the AL.

There is indeed no difference between the sensitivity of the compared methods, and the alternative method complies with the reproducibility conditions.

3.2.4.4 Evaluation of the RLOD between laboratories

The RLOD was calculated using the EN ISO 16140-2:2016 Excel spreadsheet available at http://standards.iso.org/iso/16140 - RLOD (clause 5-1-4-2 Calculation and interpretation of RLOD) version 06.07.2015. The results are used only for information (see Table 24).

Table 24 - RLOD

Name	RLOD	RLODL	RLODU	b=ln(RLOD)	sd(b)	z-Test statistic	p-value
Rillettes / *Listeria monocytogenes* Ad669	1.000	0.382	2.616	0.000	0.481	0.000	1.000
Raw milk / *Listeria ivanovii* Ad991	1.000	0.466	2.146	0.000	0.382	0.000	1.000
Smoked salmon / *Listeria innocua* 1	1.000	0.368	2.718	0.000	0.500	0.000	1.000
Zucchini / *Listeria seeligeri* Ad1293	1.000	0.462	2.163	0.000	0.386	0.000	1.000
Process water / *Listeria monocytogenes* 877/113	1.000	0.456	2.195	0.000	0.393	0.000	1.000
Combined	1.000	0.695	1.440	0.000	0.182	0.000	1.000

3.2.5 Inter-laboratory study conclusion

The data and interpretations comply with the EN ISO 16140-2:2016 requirements. The **Solus *Listeria* ELISA method** is considered equivalent to the ISO standard.

3.3 General conclusion

The **methods comparative study conclusions** are:

- ❒ The Solus *Listeria* ELISA method shows satisfying sensitivity.
- ❒ The RLOD are below the acceptability limit fixed at 1.5 for a paired study design for each category and for all the categories.
- ❒ The Solus *Listeria* ELISA method is selective and specific. But while the device is able to detect the 2 tested *Listeria grayi* strains, when testing pure cultures in non-selective broth, this is not the case after a selective enrichment in the RELM broth. Note that these 2 strains showed only few colonies on the O&A plates after the Half Fraser step only.
- ❒ The negative results are available in 2 days and the positive results in 3 or 4 days.
- ❒ The alternative method fulfils all the EN ISO 16140-2:2016 and the AFNOR technical rules.

The **inter-laboratory study conclusions** are:

- ❒ The data and interpretations comply with the EN ISO 16140-2:2016 requirements. The Solus *Listeria* ELISA method is considered equivalent to the ISO standard.

Quimper, July 17, 2017

Maryse RANNOU
Project Manager
Validation of Alternative methods

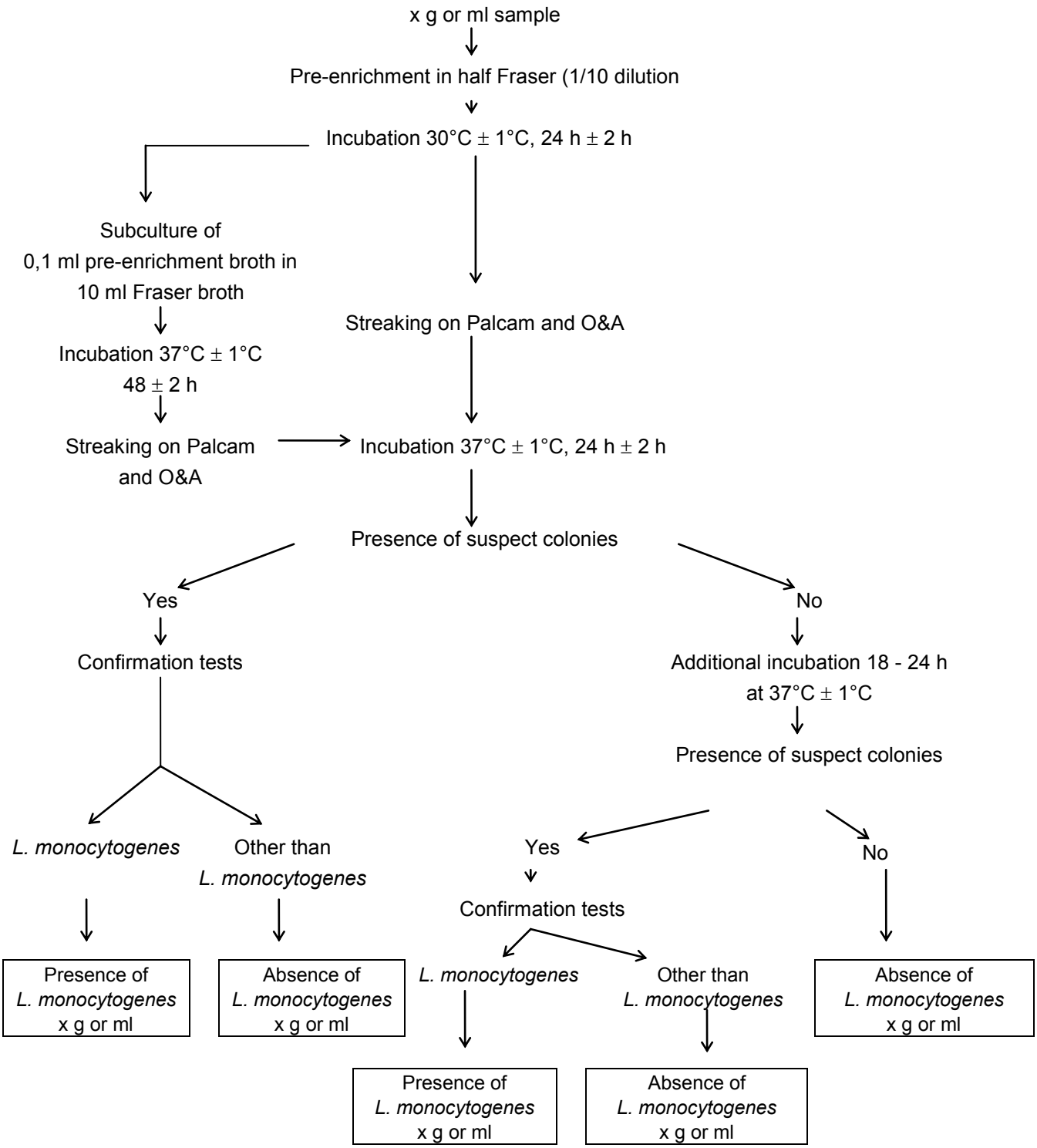
Appendix 1 – Flow diagram of the alternative method: Solus *Listeria* ELISA method

xg + 9x ml Half Fraser broth
↓
24 h ± 2 h at 30°C ± 1°C
↓
Subculture: 0.2 ml to 10 ml RELM broth
↓
24 h ± 2 h at 30°C ± 1°C[1]
↓
Transfer 1 ml enrichment broth
in an Eppendorf tube
↓
Heat treatment 15-20 min at 85°C-100°C
↓
Cooling at room temperature (or 5 min in cold tap water)
↓
0,1 ml heat treated RELM broth in each well
↓
Incubate at 37°C ± 1°C for 30 min (+ 5 min)
↓
Wash 5 – 7 times
↓
Add 0.1 ml conjugate
↓
Incubate at 37°C ±1°C for 30 min (+ 5 min)
↓
Wash 5 - 7 times
↓
Add 0.1 ml TMB substrate
↓
Incubate at room temperature
30 min
↓
Add 0.1 ml of STOP solution
↓
Interpretation
Optical density measurement within 10 min
using a 450 nm filter
if OD_{450} > 0,200 ➲ presumptive positive result
↓
Confirmation:
streak 10 µl onto selective agar plates
↓
Incubate at 37°C ± 1 °C for 24 h – 48 h
↓
Perform genus confirmation tests
(Gram, catalase)

---

[1] Store the RELM broth at 30°C if the ELISA test is performed within 2 h
Store the RELM broth at 5 ± 3°C for 72 h if the ELISA test is to be performed within longer period of time (this case was tested during the validation study).

Appendix 2 – Flow diagram of the reference method: NF EN ISO 11290-1/A1 (February 2005): Microbiology of food and animal feeding stuffs - Horizontal method for the detection and enumeration of *Listeria monocytogenes* – Part 1: detection method



Confirmation tests: Gram, Catalase, Haemolysis, Test Camp, biochemical *Listeria* gallery

Appendix 3 – Artificial contaminations of samples

Year of analysis	N° Sample	Product (French name)	Product	Artificial contaminations					Global result
				Strain	Origin	Injury applied	Injury evaluation	Inoculation level	
2013	2378	Carré corse	Raw milk cheese	Listeria ivanovii Ad1289	Raw milk cheese	Spiking 70 days pH4	0,43	7-6-3-4-3(4,6)	-
2013	2379	Epoisses	Raw milk cheese	Listeria ivanovii Ad1289	Raw milk cheese	Spiking 70 days pH4	0,43	7-6-3-4-3(4,6)	-
2013	2380	Chèvre	Raw milk cheese	Listeria ivanovii Ad1289	Raw milk cheese	Spiking 70 days pH4	0,43	7-6-3-4-3(4,6)	-
2013	2381	Moufton	Raw milk cheese	Listeria ivanovii Ad1289	Raw milk cheese	Spiking 70 days pH4	0,43	7-6-3-4-3(4,6)	+
2013	2382	Brillat Savarin	Raw milk cheese	Listeria ivanovii Ad1289	Raw milk cheese	Spiking 70 days pH4	0,43	7-6-3-4-3(4,6)	-
2013	2708	Maroilles	Raw milk cheese (Maroilles)	L. monocytogenes Ad665	Raw milk	Spiking 70 days 4°c	0,53	9-12-7-9-8(9,0)	+
2013	2709	Livarot	Raw milk cheese (Livarot)	L. innocua 906	Milk	Spiking 70 days 4°c	0,58	13-11-5-10-12(10,2)	+
2013	2704	Chantilly	Chantilly	L. monocytogenes Ad665	Raw milk	Spiking 70 days 4°c	0,53	9-12-7-9-8(9,0)	+
2013	2705	Mascarpone	Mascarpone	L.monocytogenes Ad665	Raw milk	Spiking 70 days 4°c	0,53	9-12-7-9-8(9,0)	+
2013	2706	Mascarpone	Mascarpone	L. innocua 906	Milk	Spiking 70 days 4°c	0,58	13-11-5-10-12(10,2)	+
2013	2707	Ricotta	Ricotta	L. innocua 906	Milk	Spiking 70 days 4°c	0,58	13-11-5-10-12(10,2)	+
2013	2373	Saumon frais mariné	Marinated salmon	L. monocytogenes Ad1412	Smoked salmon	Spiking 70 days 10% NaCl	0,57	3-1-4-2-1(2,2)	-
2013	2374	Saumon fumé	Smoked salmon	L. monocytogenes Ad1412	Smoked salmon	Spiking 70 days 10% NaCl	0,57	3-1-4-2-1(2,2)	+
2013	2375	Haddock fumé	Smoked haddock	L. monocytogenes Ad1412	Smoked salmon	Spiking 70 days 10% NaCl	0,57	3-1-4-2-1(2,2)	+
2013	2376	Emincé de saumon fumé à l'aneth	Smoked sliced salmon with dill	L. monocytogenes Ad1412	Smoked salmon	Spiking 70 days 10% NaCl	0,57	3-1-4-2-1(2,2)	+
2013	2377	Truite fumée	Smoked trout	L. monocytogenes Ad1412	Smoked salmon	Spiking 70 days 10% NaCl	0,57	3-1-4-2-1(2,2)	+
2013	2713	Saumon fumé	Smoked salmon	L.monocytogenes Ad996	Smoked trout	Spiking 4 months 10% NaCl	0,63	5-6-6-4-5(5,2)	+
2013	2714	Saumon fumé	Smoked salmon	L. monocytogenes Ad1412	Smoked salmon	Spiking 4 months 10% NaCl	0,52	7-9-10-10-9(9,0)	-

Year of analysis	N° Sample	Product (French name)	Product	Artificial contaminations					Global result
				Strain	Origin	Injury applied	Injury evaluation	Inoculation level	
2013	4046	Fèves extra fines surgelées	Frozen beans	L.innocua Ad1176	Spinach	Spiking 4 months -20°c	0,48	7-4-44-10(5,8)	+
2013	4047	Petits pois surgelées	Frozen peas	L.innocua Ad1176	Spinach	Spiking 4 months -20°c	0,48	7-4-44-10(5,8)	+
2013	4048	Haricots verts surgelés	Frozen beans	L.monocytogenes Ad1493	Red pepper	Spiking 4 months -20°c	0,71	10-4-5-4-6(5,8)	+
2013	2721	Curry	Curry	L.monocytogenes Ad544	Cooked onions	Spiking HT 56°c 10min	0,5	2-6-6-5-4(4,6)	-
2013	2763	Curcuma	Curcuma	L.monocytogenes Ad544	Onions	Spiking HT 56°c 10min	0,48	11-12-10-8-9(10,0)	-
2013	2764	Papika	Paprika	L.monocytogenes Ad544	Onions	Spiking HT 56°c 10min	0,48	11-12-10-8-9(10,0)	-
2013	2765	Muscade	Nutmeg	L.monocytogenes Ad544	Onions	Spiking HT 56°c 10min	0,48	11-12-10-8-9(10,0)	-
2013	2766	Curcuma	Curcuma	L.seeligeri Ad1293	Parsley	Spiking HT 56°c 10min	1,31	12-12-6-8-19(11,4)	-
2013	2767	Paprika	Paprika	L.seeligeri Ad1293	Parsley	Spiking HT 56°c 10min	1,31	12-12-6-8-19(11,4)	-
2013	3456	Ciboulette déshydratée	Dehydrated chive	L.monocytogenes Ad544	Onions	Spiking HT 56°c 10min	0,36	12-5-8-4-5(6,8)	-
2013	3457	Oignons déshydratés	Dehydrated onions	L.seeligeri Ad1293	Parsley	Spiking HT 56°c 10min	0,3	1-3-7-0-2(2,6)	+
2013	3458	Persil déshydraté	Dehydrated parsley	L.monocytogenes Ad544	Onions	Spiking HT 56°c 10min	0,36	12-5-8-4-5(6,8)	-
2013	3459	Basilic déshydraté	Dehydrated basil	L.monocytogenes Ad544	Onions	Spiking HT 56°c 10min	0,36	12-5-8-4-5(6,8)	-
2013	3460	Ciboulette déshydratée	Dehydrated chive	L.seeligeri Ad1293	Parsley	Spiking HT 56°c 10min	0,3	1-3-7-0-2(2,6)	-
2013	3461	Persil déshydraté	Dehydrated parsley	L.seeligeri Ad1293	Parsley	Spiking HT 56°c 10min	0,3	1-3-7-0-2(2,6)	+
2013	3462	Basilic déshydraté	Dehydrated basil	L.seeligeri Ad1293	Parsley	Spiking HT 56°c 10min	0,3	1-3-7-0-2(2,6)	+
2013	4049	Galettes de légumes surgelées	Frozen vegetables patties	L.monocytogenes Ad1493	Red pepper	Spiking 4 months -20°c	0,71	10-4-5-4-6(5,8)	+
2017	3093	Curcuma moulu	Spices	*L. monocytogenes* Ad1238	Vegetables	Spiking HT 56°c 10min	0,43	5-4-3-1-5 (3,8)	+
2017	3094	Piment fort	Spices	*L. monocytogenes* Ad1238	Vegetables	Spiking HT 56°c 10min	0,43	5-4-3-1-5 (3,8)	+
2017	3095	Persil frais	Parsley	*L. monocytogenes* Ad1303	Vegetables	Seeding 2-8°C 48h	/	0-1-2-1-1 (1,0)	-
2017	3096	Persil frais	Parsley	*L. innocua* Ad1673	Vegetables	Seeding 2-8°C 48h	/	1-1-0-0-2 (0,8)	+
2017	3097	Ciboulette fraiche	Chives	*L. monocytogenes* Ad1303	Vegetables	Seeding 2-8°C 48h	/	0-1-2-1-1 (1,0)	+
2017	3098	Ciboulette fraiche	Chives	*L. innocua* Ad1673	Vegetables	Seeding 2-8°C 48h	/	1-1-0-0-2 (0,8)	+

Year of analysis	N° Sample	Product (French name)	Product	Artificial contaminations					Global result
				Strain	Origin	Injury applied	Injury evaluation	Inoculation level	
2017	3099	**Coriandre fraiche**	Chives	*L. monocytogenes* Ad1303	Vegetables	Seeding 2-8°C 48h	/	0-1-2-1-1 (1,0)	-
2017	3100	**Eau production poisson**	Process water (fish production)	*L. innocua* 1	Fish product	Seeding 2-8°C 48h	/	1-1-1-0-0 (0,6)	+
2017	3101	**Eau production porc Knacki**	Process water (Pork meat production)	*L. monocytogenes* Ad271	Pork meat	Seeding 2-8°C 48h	/	2-0-1-0-0 (0,6)	+
2017	3102	**Eau production porc**	Process water (Pork meat production)	*L. monocytogenes* Ad271	Pork meat	Seeding 2-8°C 48h	/	2-0-1-0-0 (0,6)	-
2017	3717	**Maxi sandwich jambon tomates œufs**	RTE Pork Sandwich	*L. welshimeri* Ad1215	Pork meat	Seeding 2-8°C 48h	/	0-0-1-0-1 (0,4)	+
2017	3718	**Maxi sandwich jambon tomates œufs**	RTE Pork Sandwich	*L. monocytogenes* Ad1216	Pork meat	Seeding 2-8°C 48h	/	1-2-1-0-0 (0,6)	+
2017	3719	**Trio jambon beurre à toaster**	RTRH food	*L. monocytogenes* Ad1216	Pork meat	Seeding 2-8°C 48h	/	1-2-1-0-0 (0,6)	-
2017	3720	**Trio jambon beurre à toaster**	RTRH food	*L. innocua* 17765	Pork meat	Seeding 2-8°C 48h	/	1-0-3-1-0 (0,8)	+
2017	3721	**Sandwich jambon œuf sauce burger**	RTE Pork Sandwich	*L. welshimeri* Ad1215	Pork meat	Seeding 2-8°C 48h	/	0-0-1-0-1 (0,4)	+
2017	3722	**Sandwich jambon œuf sauce burger**	RTE Pork Sandwich	*L. monocytogenes* Ad1216	Pork meat	Seeding 2-8°C 48h	/	1-2-1-0-0 (0,6)	+
2017	3723	**Fusilli jambon**	RTRH food	*L. welshimeri* Ad1215	Pork meat	Seeding 2-8°C 48h	/	0-0-1-0-1 (0,4)	-
2017	3724	**Fusilli jambon**	RTRH food	*L. monocytogenes* Ad1216	Pork meat	Seeding 2-8°C 48h	/	1-2-1-0-0 (0,6)	+
2017	3725	**Piémontaise jambon**	RTE Deli-Salad with pork	*L. monocytogenes* Ad1216	Pork meat	Seeding 2-8°C 48h	/	1-2-1-0-0 (0,6)	+
2017	3726	**Piémontaise jambon**	RTE Deli-Salad with pork	*L. innocua* 17765	Pork meat	Seeding 2-8°C 48h	/	1-0-3-1-0 (0,8)	+
2017	3727	**Piémontaise jambon**	RTE Deli-Salad with pork	*L. welshimeri* Ad1215	Pork meat	Seeding 2-8°C 48h	/	0-0-1-0-1 (0,4)	+
2017	3728	**Piémontaise jambon**	RTE Deli-Salad with pork	*L. innocua* 17765	Pork meat	Seeding 2-8°C 48h	/	1-0-3-1-0 (0,8)	+
2017	3729	**Œuf entier liquide pasteurisé**	Pasteurised liquid egg	*L. monocytogenes* Ad1195	Ovoproduct	Seeding 2-8°C 48h	/	0-0-2-1-2 (1,0)	-
2017	3730	**Jaune d'œufs liquide pasteurisé**	Pasteurised liquid egg yolk	*L. monocytogenes* Ad1195	Ovoproduct	Seeding 2-8°C 48h	/	0-0-2-1-2 (1,0)	+

Year of analysis	N° Sample	Product (French name)	Product	Artificial contaminations					Global result
				Strain	Origin	Injury applied	Injury evaluation	Inoculation level	
2017	**3731**	**Jaune d'œufs liquide pasteurisé**	Pasteurised liquid egg yolk	*L. monocytogenes* Ad1195	Ovoproduct	Seeding 2-8°C 48h	/	0-0-2-1-2 (1,0)	+
2017	**3732**	**Tortilla oignons**	Omelet	*L. monocytogenes* Ad1195	Ovoproduct	Seeding 2-8°C 48h	/	0-0-2-1-2 (1,0)	+
2017	**3733**	**Demi mille feuilles**	Pastry	*L. monocytogenes* Ad1195	Ovoproduct	Seeding 2-8°C 48h	/	0-0-2-1-2 (1,0)	+
2017	**3734**	**Demi mille feuilles**	Pastry	*L. monocytogenes* Ad551	Pastry	Seeding 2-8°C 48h	/	0-1-1-2-2 (1,2)	-
2017	**3735**	**Religieuses café**	Pastry	*L. monocytogenes* Ad1195	Ovoproduct	Seeding 2-8°C 48h	/	0-0-2-1-2 (1,0)	+
2017	**3736**	**Religieuses café**	Pastry	*L. monocytogenes* Ad551	Pastry	Seeding 2-8°C 48h	/	0-1-1-2-2 (1,2)	+
2017	**3737**	**Eclairs chocolat**	Pastry	*L. monocytogenes* Ad551	Pastry	Seeding 2-8°C 48h	/	0-1-1-2-2 (1,2)	-
2017	**3738**	**Eclairs vanille**	Pastry	*L. monocytogenes* Ad551	Pastry	Seeding 2-8°C 48h	/	0-1-1-2-2 (1,2)	+

Appendix 4 – Sensitivity study: raw data

Bold typing : artificially inoculated samples

Listeria detection results:

H-:	characteristic *Listeria* colonies without halo
H+:	characteristic *Listeria* colonies with halo
-:	no typical colonies but presence of background microflora
st:	plate without any colony
i:	PCR inhibition
PA:	positive agreement
NA:	negative agreement
ND:	negative deviation
PD:	positive deviation
PPNA:	positive presumptive negative agreement
PPND :	positive presumptive negative deviation
NC:	Non-characteristic colony on TSYEA
d:	doubtful colony
*:	result after enrichment broth dilution at 1/10
NI:	No identification
ni :	Not isolated colony

COMPOSITE FOODS																											
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1/A1♦						Alternative method: Solus *Listeria* ELISA method															Cate-gory	Ty-pe
				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser 22 h at 30°C / RELM 22 h at 30°C									Half Fraser 22h at 30°C / RELM 22h at 30°C + 72h at 5°C +- 3°C							
				OAA	Palcam	OAA	Palcam			D.O.	Result	Confirmatory tests					Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment		
												OAA	Palcam	Gram	Catalase	Identification					OAA	Palcam				
2013	1334	Sandwich poulet tomates	Chicken and tomato sandwich	H+/H-	+	H+/H-	+	*L.welshimeri/ L. monocytogenes*	+	2,937	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,961	+	H+/H-	+	+	**PA**	1	a
2013	1346	Sandwich emmental crudités	Vegetables and cheese sandwich	-	-	-	-	/	-	0,062	-	-	-			/	-	**NA**							1	a
2013	1347	Sandwich jambon beurre	Butter and ham sandwich	H+	+	H+	+	*L.monocytogenes*	+	2,915	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,884	+	H+	+	+	**PA**	1	a
2017	2934	Sandwich jambon emmental	RTE Sandwich	st	-	st	-	/	-	0,037	-	st	-			/	-	**NA**							1	a
2017	2935	Sandwich thon crudités	RTE Sandwich	H-d	-	H-d	-	NC	-	0,059	-	-	-			/	-	**NA**	0,040	-	-	-	-	**NA**	1	a
2017	2936	Mini bagel jambon fromage	RTE Sandwich	st	-	-	-	/	-	0,054	-	st	-			/	-	**NA**							1	a
2017	2937	Sandwich Saumon fumé citron ciboulette	RTE Sandwich	st	st	st	st	/	-	0,084	-	st	st			/	-	**NA**							1	a
2017	2938	Pain surprise thon tomate	RTE food	st	st	st	st	/	-	0,053	-	st	st			/	-	**NA**							1	a
2017	3195	Sandwich poulet tomates œuf	RTE Sandwich	-	st	-	-	/	-	0,06	-	st	st			/	-	**NA**							1	a
2017	3196	Sandwich américain	RTE Sandwich	H+	+	H+	st	*L.monocytogenes*	+	2,761	+	H+/H-	+	+	+	*L. monocytogenes/ L.innocua*	+	**PA**	2,493	+	H+/H-	+	+	**PA**	1	a
2017	3197	Croque madame	RTE food	-	-	H-d	-	NC	-	0,05	-	-	-			/	-	**NA**							1	a
2017	3463	Mini sandwich	RTE Sandwich	-	-	st	-	/	-	0,049	-	H-d	-	NC	NC	NI	-	**NA**	0,053	-	H-d (NC)	-	-	**NA**	1	a
2017	3464	Guacamole	RTE food	-	-	-	st	/	-	0,042	-	-	-			/	-	**NA**							1	a
2017	3465	Sandwich thon tartare legumes	RTE Sandwich	-	-	st	st	/	-	0,044	-	-	-			/	-	**NA**							1	a
2017	3467	Mini bagels	RTE Sandwich	-	-	-	-	/	-	0,058	-	-	-			/	-	**NA**							1	a
2017	3468	Sandwich thon tomates œuf	RTE Sandwich	-	-	-	-	/	-	0,064	-	-	-			/	-	**NA**							1	a
2017	3475	Sandwich poulet roti œuf	RTE Sandwich	-	-	st	-	/	-	0,047	-	st	-			/	-	**NA**							1	a
2017	3476	Sandwhich thon provençal	RTE Sandwich	-	-	-	-	/	-	0,060	-	-	-			/	-	**NA**							1	a
2017	**3717**	**Maxi sandwich jambon tomates œufs**	RTE Pork Sandwich	H-	+	H-	+	*L. welshimeri*	+	2,730	+	H-	+	+	+	*L. welshimeri*	+	**PA**	2,68	+	H-	+	+	**PA**	1	a
2017	**3718**	**Maxi sandwich jambon tomates œufs**	RTE Pork Sandwich	H+	+	H+	+	*L. monocytogenes*	+	2,658	+	H+	+	+	+	*L. monocytogenes*	+	**PA**	2,729	+	H+	+	+	**PA**	1	a
2017	**3721**	**Sandwich jambon œuf sauce burger**	RTE Pork Sandwich	H-	+d	H-	+	*L. welshimeri*	+	2,643	+	H-	+	+	+	*L. welshimeri*	+	**PA**	2,66	+	H-	+	+	**PA**	1	a
2017	**3722**	**Sandwich jambon œuf sauce burger**	RTE Pork Sandwich	H+	+d	H+	+	*L. monocytogenes*	+	2,635	+	H+	+	+	+	*L. monocytogenes*	+	**PA**	2,652	+	H+	+	+	**PA**	1	a
2017	**3725**	**Piémontaise jambon**	RTE Deli-Salad with pork	H+	-	H+	+	*L. monocytogenes*	+	1,728	+	H+	+	+	+	*L. monocytogenes*	+	**PA**	2,054	+	H+	+	+	**PA**	1	a
2017	**3726**	**Piémontaise jambon**	RTE Deli-Salad with pork	H-	+	H-	+	*L.innocua*	+	2,580	+	H-	+	+	+	*L.innocua*	+	**PA**	2,629	+	H-	+	+	**PA**	1	a
2017	**3727**	**Piémontaise jambon**	RTE Deli-Salad with pork	H-	+	H-	+	*L. welshimeri*	+	2,656	+	H-	+	+	+	*L. welshimeri*	+	**PA**	2,641	+	H-	+	+	**PA**	1	a
2017	**3728**	**Piémontaise jambon**	RTE Deli-Salad with pork	H+/H-	+	H+/H-	+	*L. monocytogenes / L.innocua*	+	2,647	+	H-	+	+	+	*L.innocua*	+	**PA**	2,575	+	H+/H-	+	+	**PA**	1	a

♦ Analyses performed according to the COFRAC accreditation

COMPOSITE FOODS																											
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1/A1♦						Alternative method: Solus *Listeria* ELISA method															Cate-gory	Ty-pe
				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser 22 h at 30°C / RELM 22 h at 30°C									Half Fraser 22h at 30°C / RELM 22h at 30°C + 72h at 5°C +- 3°C							
				OAA	Palcam	OAA	Palcam			D.O.	Result	Confirmatory tests					Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment		
												OAA	Palcam	Gram	Catalase	Identification					OAA	Palcam				
2013	1345	Baguette gratinée lardons emmental	Ready to eat	st	st	st	-	/	-	0,023	-	st	st			/	-	**NA**							1	b
2013	1348	Feuilletés jambon fromage	Ham and cheese puff	H+/H-	-	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,823	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,861	+	H+/H-	+	+	**PA**	1	b
2013	1351	Galette lardons pommes de terre	Bacon and potatoes	H-	-	H-	-	*L.welshimeri*	+	3,004	+	H-	+	+	+	*L.innocua*	+	**PA**	2,854	+	H-	+	+	**PA**	1	b
2013	1355	Tartefine escargots, ail et fines herbes	Ready to eat meal(snails pie with herbs)	-	-	-	-	/	-	0,104	-	st	-			/	-	**NA**							1	b
2013	1357	Crêpe champignons	Mushrooms pancake	H+/H-	+	H+	+	*L.monocytogenes*	+	2,937	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,929	+	H+	+	+	**PA**	1	b
2017	3184	Galette boulgour lentilles	RTRH product	-	-	H-	+	*L.innocua*	+	2,591	+	H-	+	+	+	*L. innocua*	+	**PA**	2,638	+	H-	+	+	**PA**	1	b
2017	3185	Mini choux escargot	RTRH product	H+	+	H+	+	*L.monocytogenes*	+	2,706	+	H+	-	+	+	*L. monocytogenes*	+	**PA**	2,653	+	H+	+	+	**PA**	1	b
2017	3186	Galette quinoa provençale	RTRH product	-	-	st	-	/	-	0,089	-	-	-			/	-	**NA**							1	b
2017	3187	Bouchée à la reine	RTRH product	H+	+	H+	+	*L.monocytogenes*	+	2,726	+	H+/H-	-	+	+	*L. monocytogenes/ L.innocua*	+	**PA**	2,552	+	H+/H-	-	+	**PA**	1	b
2017	3189	Brunoise méridionale	RTRH product	st	-	-	-	/	-	0,042	-	-	-			/	-	**NA**							1	b
2017	3190	Pomme de terre au thon	RTRH product	st	-	-	-	/	-	0,034	-	st	-			/	-	**NA**							1	b
2017	3191	Raviolis	RTRH product	H-	+(1)	H-	-	*L.welshimeri*	+	1,225	+	H-	+	+	+	*L. innocua*	+	**PA**	1,183	+	H-	+	+	**PA**	1	b
2017	3193	Brunoise méridionale	RTRH product	st	-	-	-	/	-	0,043	-	-	-			/	-	**NA**							1	b
2017	3194	Galette complete blé noir	RTRH product	H+	+	H+	-	*L.monocytogenes*	+	2,755	+	H+	-	+	+	*L. monocytogenes*	+	**PA**	2,655	+	H+	+	+	**PA**	1	b
2017	3472	Quiches lorraines	RTRH product	-	-	-	-	/	-	0,058	-	-	-			/	-	**NA**							1	b
2017	3473	Fusilli bolognaise	RTRH product	st	-	st	st	/	-	0,011	-	st	st			/	-	**NA**							1	b
2017	3474	Pizza trois fromages	Pizza	-	-	H-	+	*L.innocua*	+	2,742	+	H-	+	+	+	*L. innocua*	+	**PA**	2,623	+	H-	+	+	**PA**	1	b
2017	**3719**	**Trio jambon beurre à toaster**	RTRH food	st	st	st	st	/	-	0,048	-	st	st			/	-	**NA**							1	b
2017	**3720**	**Trio jambon beurre à toaster**	RTRH food	H-	+	H-	+	*L.innocua*	+	2,723	+	H-	+	+	+	*L.innocua*	+	**PA**	2,656	+	H-	+	+	**PA**	1	b
2017	**3723**	**Fusilli jambon**	RTRH food	st	-	-	-	/	-	0,037	-	st	-			/	-	**NA**							1	b
2017	**3724**	**Fusilli jambon**	RTRH food	H+	-	H+	+	*L. monocytogenes*	+	2,720	+	H+	+	+	+	*L. monocytogenes*	+	**PA**	2,633	+	H+	+	+	**PA**	1	b
2013	1344	Œufs durs en rondelles	Hard egg	H+	+(6)	H+	+	*L.monocytogenes*	+	2,95	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,876	+	H+	+	+	**PA**	1	c
2017	3182	Œuf mimosa	Egg product	st	st	st	-	/	-	0,032	-	st	-			/	-	**NA**							1	c
2017	3183	Omelette orientale	Egg product	st	st	st	-	/	-	0,064	-	-	-			/	-	**NA**							1	c
2017	3188	Coquille œuf broyée	Egg product	st	-	-	-	/	-	0,051	-	-	-			/	-	**NA**							1	c
2017	3192	Mille feuilles	Pastry	st	-	st	st	/	-	0,029	-	st	st			/	-	**NA**							1	c
2017	3198	Buchette grand marnier	Pastry	st	-	-	-	/	-	0,044	-	-	-			/	-	**NA**							1	c
2017	3199	Blanc d'œuf congelé	Frozen egg white	st	-	-	-	/	-	0,036	-	st	st			/	-	**NA**							1	c
2017	3200	Eclair au chocolat	Pastry	H+	+	H+	+	*L.monocytogenes*	+	2,166	+	H+	+	+	+	*L. monocytogenes*	+	**PA**	2,176	+	H+	+	+	**PA**	1	c
2017	3201	Eclair au chocolat	Pastry	H+	+	H+	+	*L.monocytogenes*	+	2,464	+	H+	+	+	+	*L. monocytogenes*	+	**PA**	2,404	+	H+	-	+	**PA**	1	c
2017	3459	Croissant aux abricots	Pastry	H+	-	H+	-	*L.monocytogenes*	+	2,547	+	H+	-	+	+	*L. monocytogenes*	+	**PA**	2,326	+	H+	-	+	**PA**	1	c
2017	3461	Omelette	Omelet	st	st	st	st	/	-	0,040	-	-	-			/	-	**NA**							1	c
2017	3477	Palet breton fraise	Pastry	st	-	st	-	/	-	0,055	-	st	-			/	-	**NA**							1	c
2017	3478	Demi mille feuilles	Pastry	-	-	-	-	/	-	0,048	-	-	-			/	-	**NA**							1	c

COMPOSITE FOODS																											
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1/A1♦						Alternative method: Solus *Listeria* ELISA method															Cate-gory	Ty-pe
				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser 22 h at 30°C / RELM 22 h at 30°C									Half Fraser 22h at 30°C / RELM 22h at 30°C + 72h at 5°C +- 3°C							
				OAA	Palcam	OAA	Palcam			D.O.	Result	Confirmatory tests					Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment		
												OAA	Palcam	Gram	Catalase	Identification					OAA	Palcam				
2017	**3729**	**Œuf entier liquide pasteurisé**	Pasteurised liquid egg	st	st	st	st	/	-	0,064	-	st	st			/	-	**NA**							1	c
2017	**3730**	**Jaune d'œufs liquide pasteurisé**	Pasteurised liquid egg yolk	H+	-	H+	+	*L. monocytogenes*	+	2,802	+	H+	+	+	+	*L. monocytogenes*	+	**PA**	2,584	+	H+	+	+	**PA**	1	c
2017	**3731**	**Jaune d'œufs liquide pasteurisé**	Pasteurised liquid egg yolk	H+	-	H+	+	*L. monocytogenes*	+	2,796	+	H+	+	+	+	*L. monocytogenes*	+	**PA**	2,605	+	H+	+	+	**PA**	1	c
2017	**3732**	**Tortilla oignons**	Omelet	H+	-	H+	+	*L. monocytogenes*	+	2,787	+	H+	+	+	+	*L. monocytogenes*	+	**PA**	2,588	+	H+	+	+	**PA**	1	c
2017	**3733**	**Demi mille feuilles**	Pastry	H+	-	H+	+	*L. monocytogenes*	+	2,751	+	H+	+	+	+	*L. monocytogenes*	+	**PA**	2,717	+	H+	+	+	**PA**	1	c
2017	**3734**	**Demi mille feuilles**	Pastry	st	-	st	st	/	-	0,106	-	st	-			/	-	**NA**							1	c
2017	**3735**	**Religieuses café**	Pastry	H+	-	H+	+	*L. monocytogenes*	+	2,708	+	H+	+	+	+	*L. monocytogenes*	+	**PA**	2,669	+	H+	+	+	**PA**	1	c
2017	**3736**	**Religieuses café**	Pastry	H+	+	H+	-	*L. monocytogenes*	+	2,701	+	H+	+	+	+	*L. monocytogenes*	+	**PA**	2,623	+	H+	+	+	**PA**	1	c
2017	**3737**	**Eclairs chocolat**	Pastry	-	-	-	st	/	-	0,049	-	-	-			/	-	**NA**							1	c
2017	**3738**	**Eclairs vanille**	Pastry	H+	+	H+	+	*L. monocytogenes*	+	2,796	+	H+	+	+	+	*L. monocytogenes*	+	**PA**	2,654	+	H+	+	+	**PA**	1	c

MEAT PRODUCTS																											
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1/A1♦						Alternative method: Solus *Listeria* ELISA method														Cate-gory	Ty-pe
				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser 22 h at 30°C / RELM 22 h at 30°C									Half Fraser 22h at 30°C / RELM 22h at 30°C + 72h at 5°C +- 3°C							
				OAA	Palcam	OAA	Palcam			D.O.	Result	Confirmatory tests					Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment		
												OAA	Palcam	Gram	Catalase	Identification					OAA	Palcam				
2013	1194	Viande triée de poulet	Poultry meat	H+/H-	-	H+/H-	-	*L.welshimeri/ L. monocytogenes*	+	3,012	+	H+/H-	+	+	+	*L.monocytogenes*	+	**PA**	3,077	+	H+/H-	+	+	**PA**	2	a
2013	1195	Sauté de poulet	Chicken meat	H+/H-	+	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,937	+	H+/H-	+	+	+	*L.monocytogenes/ L.innocua*	+	**PA**	2,985	+	H+/H-	+	+	**PA**	2	a
2013	1197	Brochette	Skewers	H-	+	H-	+	*L.welshimeri*	+	2,403	+	H-	+	+	+	*L.welshimeri*	+	**PA**	2,985	+	H-	+	+	**PA**	2	a
2013	1206	Magret de canard	Duck meat	st	-	-	st	/	-	0,095	-	st	st			/	-	**NA**							2	a
2013	1207	Blanquette de dinde	Turkey meat	st	-	st	st	/	-	0,077	-	-	-			/	-	**NA**							2	a
2013	1222	Gésiers	Gizzards	H+	-	H+	+	*L.monocytogenes*	+	2,963	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,987	+	H+	+	+	**PA**	2	a
2013	1739	Viande de volaille avec peau	Poultry meat with skin	-	-	st	-	/	-	0,106	-	st	-			/	-	**NA**							2	a
2013	1740	Filet de dinde	Turkey meat	H+/H-	-	H+/H-	+	*L.welshimeri/ L.monocytogenes*	+	2,918	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,846	+	H+	+	+	**PA**	2	a
2013	1741	VGG de poulet	Poultry meat	st	-	-	-	/	-	0,121	-	st	-			/	-	**NA**							2	a
2013	2386	Filet de poulet	Chicken raw meat	H+	-	H+	+	*L.monocytogenes*	+	2,333	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,549	+	H+	+	+	**PA**	2	a
2013	2436	Viande triée de poulet	Chicken meat	H-	-	st	-	*catalase-*	-	0,042	-	-	-			/	-	**NA**							2	a
2013	1214	Jambon DD	Ham	H+	+	H+	+	*L.monocytogenes*	+	2,915	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,95	+	H+	+	+	**PA**	2	a
2013	1737	Noix de jambon	Pork meat with aromatic herbs	st	st	st	st	/	-	0,05	-	st	st			/	-	**NA**							2	a
2013	1196	Steak	Steak	-	st	st	st	/	-	0,118	-	st	st			/	-	**NA**							2	a
2013	1202	Aiguillette baronne	Beef meat	H+	+	H+	+	*L.monocytogenes*	+	2,809	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,962	+	H+	+	+	**PA**	2	a
2013	1212	Steak haché	Ground beef	H+/H-	+	H+/H-	+	*L.welshimeri/ L. monocytogenes*	+	2,903	+	H+/H-	+	+	+	*L.welshimeri/ L. monocytogenes*	+	**PA**	2,971	+	H+/H-	+	+	**PA**	2	a
2013	1213	Steak haché 15%	Ground beef	H+/H-	+	H+/H-	+	*L.welshimeri/ L.monocytogenes*	+	2,932	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,976	+	H+/H-	+	+	**PA**	2	a
2013	1735	Steak haché de bœuf	Ground beef	H+	-	H+	+	*L.monocytogenes*	+	2,954	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,871	+	H+	+	+	**PA**	2	a
2013	1736	Steak haché de bœuf	Ground beef	-	-	st	-	/	-	0,114	-	st	-			/	-	**NA**							2	a
2013	2385	Steak haché	Ground beef	st	-	-	-	/	-	0,031	-	-	st			/	-	**NA**							2	a
2013	2434	Steak haché	Ground beef	H- (1)	+(2)	H+/H-	+	*L.innocua/ L.monocytogenes*	+	1,98	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,102	+	H+/H-	+	+	**PA**	2	a
2013	2435	Steak haché	Ground beef	H+	-	H+	+	*L.monocytogenes*	+	1,833	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,157	+	H+	+	+	**PA**	2	a
2013	2437	Steak haché	Ground beef	H+ (1)	-	H+	+	*L.monocytogenes*	+	2,371	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,289	+	H+	+	+	**PA**	2	a
2013	1198	Cubes de poulets marinés	Marinated pieces of chicken	H+	+	H+	+	*L.monocytogenes*	+	2,79	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,985	+	H+	+	+	**PA**	2	b
2013	1204	Aiguillettes de poulet marinés	Marinated pieces of chicken	-	st	H+	+	*L.monocytogenes*	+	2,884	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,945	+	H+	+	+	**PA**	2	b
2013	1220	Sot l'y laisse mariné	Poultry meat	H+/H-	+	H+/H-	-	*L.welshimeri/ L. monocytogenes*	+	2,959	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,901	+	H+/H-	-	+	**PA**	2	b
2013	1352	Cordon bleu	Cordon bleu	st	-	-	-	/	-	0,103	-	st	-			/	-	**NA**							2	b
2013	1354	Paella	Paella	st	-	-	-	/	-	0,099	-	st	-			/	-	**NA**							2	b
2013	1956	Panier de volaille	Ready to eat meal (Poultry)	H-	+	H-	+	*L.innocua*	+	2,217	+	H-	+	+	+	*L.innocua*	+	**PA**	2,328	+	H-	+	+	**PA**	2	b
2013	2759	Parmentier poulet	Ready to eat meal (chicken)	st	st	-	-	/	-	0,041	-	st	st			/	-	**NA**							2	b
2013	2760	Aiguillettes de poulet cuites	Ready to eat meal (chicken)	st	st	st	st	/	-	0,042	-	st	st			/	-	**NA**							2	b

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MEAT PRODUCTS																											
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1/A1♦						Alternative method: Solus *Listeria* ELISA method															Cate-gory	Ty-pe
				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser 22 h at 30°C / RELM 22 h at 30°C									Half Fraser 22h at 30°C / RELM 22h at 30°C + 72h at 5°C +- 3°C							
				OAA	Palcam	OAA	Palcam			D.O.	Result	Confirmatory tests					Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment		
												OAA	Palcam	Gram	Catalase	Identification					OAA	Palcam				
2013	2761	Samoussas poulet curry	Ready to eat mea l(chicken samoussas)	st	-	-	-	/	-	0,082	-	st	-			/	-	**NA**							2	b
2013	2762	Nems poulet menthe	Ready to eat meal (chicken nems)	-	-	-	-	/	-	0,088	-	st	-			/	-	**NA**							2	b
2013	1200	Côte de porc thym et romarin	Pork meat with aromatic herbs	st	-	st	st	/	-	0,095	-	st	-			/	-	**NA**							2	b
2013	1215	Côte de porc thym et romarin	Pork meat with aromatic herbs	st	-	st	st	/	-	0,111	-	st	st			/	-	**NA**							2	b
2013	1221	Tomates farcies	Stuffed tomatoes	H+/H-	+	H+/H-	+	*L.innocua/ L. monocytogenes*	+	2,954	+	H+/H-	+	+	+	*L.welshimeri/ L. monocytogenes*	+	**PA**	2,89	+	H+/H-	+	+	**PA**	2	b
2013	1210	Pavé mariné à l'échalotte	Marinated piece of beef	H+	+	H+	+	*L.monocytogenes*	+	2,954	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,994	+	H+	+	+	**PA**	2	b
2013	1343	Croque Kebab	Croque Kebab	H+	+	H+	-	*L.monocytogenes*	+	2,919	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,822	+	H+	+	+	**PA**	2	b
2013	1762	Hachis parmentier au bœuf	Ready to eat meal (Hachis parmentier)	H- (1)	+(2)	H-	+	*L.welshimeri*	+	2,973	+	H-	+	+	+	*L.welshimeri*	+	**PA**	2,866	+	H-	+	+	**PA**	2	b
2013	1763	Gratin bœuf courgettes	Beef and zucchini gratin	st	st	st	st	/	-	0,041	-	st	st			/	-	**NA**							2	b
2013	1764	Moussaka de bœuf	Ready to eat meal (Moussaka)	st	st	st	st	/	-	0,045	-	st	st			/	-	**NA**							2	b
2013	1765	Bœuf Bourguignon	Ready to eat meal (Bœuf bourguignon)	st	st	st	st	/	-	0,046	-	st	st			/	-	**NA**							2	b
2013	2384	Souris d'agneau au thym	Ready to eat lamb	st	-	-	-	/	-	0,107	-	-	-			/	-	**NA**							2	b
2013	2756	Bœuf Bourguignon	Ready to eat meal (beef))	st	st	st	st	/	-	0,068	-	st	st			/	-	**NA**							2	b
2013	2757	Rognons de boeuf cuits	Ready to eat meal (beef))	st	st	st	st	/	-	0,048	-	st	st			/	-	**NA**							2	b
2013	2758	Samoussas au bœuf	Ready to eat meal (beef samoussas)	-	-	-	-	/	-	0,076	-	st	-			/	-	**NA**							2	b
2013	1201	Pâté de campagne	Pâté	st	st	st	st	/	-	0,079	-	st	st			/	-	**NA**							2	c
2013	1203	Saucisson à l'ail	Cooked sausage with garlic	st	-	st	-	/	-	0,061	-	-	-			/	-	**NA**							2	c
2013	1205	Saucisson à l'ail	Cooked sausage with garlic	st	st	st	st	/	-	0,114	-	st	st			/	-	**NA**							2	c
2013	1208	Merguez	Merguez	-	st	st	st	/	-	0,075	-	st	st			/	-	**NA**							2	c
2013	1209	Farce	Stuff	H-	-	H-	+	*L.innocua*	+	0,958	+	H-	+	+	+	*L.innocua*	+	**PA**	2,743	+	H-	+	+	**PA**	2	c
2013	1211	Merguez	Merguez	H+/H-	-	H+/H-	+	*L.ivanovii/ L.welshimeri*	+	1,332	+	H+/H-	+	+	+	*L.welshimeri/ L. monocytogenes*	+	**PA**	2,976	+	H+/H-	+	+	**PA**	2	c
2013	1216	Andouille de Guéméné	Chitterling	H-	+	H-	+	*L.innocua*	+	3,002	+	H-	+	+	+	*L.innocua*	+	**PA**	2,933	+	H-	+	+	**PA**	2	c
2013	1217	Andouillette nature	Chitterling	H+	-	H+/H-	+	*L.monocytogenes*	+	2,468	+	H+	-	+	+	*L.monocytogenes*	+	**PA**	2,925	+	H+	-	+	**PA**	2	c
2013	1218	Merguez	Merguez	H+	+	H+	+	*L.monocytogenes*	+	3,007	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,967	+	H+	+	+	**PA**	2	c
2013	1219	Chipolatas	Sausages	H+/H-	+	H+/H-	+	*L.welshimeri/ L. monocytogenes*	+	2,978	+	H+/H-	+	+	+	*L.welshimeri/ L. monocytogenes*	+	**PA**	2,95	+	H+/H+	+	+	**PA**	2	c
2013	1738	Saucisse cocktail	Cocktail sausages	-	-	H-d	-	*gram-*	-	0,202	+	H-	-			*L.seeligeri*	+	**PD**	0,170	-	-	-	-	**NA**	2	c
2013	2383	Rosette	Raw milk cheese	st	st	st	st	/	-	0,024	-	st	-			/	-	**NA**							2	c
2013	2387	Chipolatas au persil	Sausages with parsley	st	-	-	-	/	-	0,03	-	st	-			/	-	**NA**							2	c
2013	2438	Saucisse cocktail	Cocktail sausages	H-	+	H-	+	*L.welshimeri*	+	2,335	+	H-	+	+	+	*L.welshimeri*	+	**PA**	2,291	+	H-	+	+	**PA**	2	c
2013	2439	Terrine de campagne	Terrine	H+	-	st	st	*L.monocytogenes*	+	2,261	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,347	+	H+	+	+	**PA**	2	c
2017	2947	Rosette	Delicatessen	st	-	st	-	/	-	0,043	-	st	-			/	-	**NA**							2	c

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				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser 22 h at 30°C / RELM 22 h at 30°C									Half Fraser 22h at 30°C / RELM 22h at 30°C + 72h at 5°C +- 3°C							
				OAA	Palcam	OAA	Palcam			D.O.	Result	Confirmatory tests					Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment		
												OAA	Palcam	Gram	Catalase	Identification					OAA	Palcam				
2017	2948	Saucisson sec	Delicatessen	st	-	st	-	/	-	2,184	+	H-	+	+	+	*L. welshimeri*	+	**PD**	2,685	+	H-	+	+	**PD**	2	c
2017	2949	Mousse de foie	Delicatessen	st	st	st		/	-	0,046	-	st	-			/	-	**NA**							2	c
2017	2950	Pâté de campagne	Delicatessen	st	-	st	st	/	-	0,038	-	st	-			/	-	**NA**							2	c
2017	2951	Saucisse de francfort	Delicatessen	st	-	st	st	/	-	0,049	-	st	-			/	-	**NA**							2	c
2017	3460	Rilletes d'oie	Rillettes	-	-	st	st	/	-	0,040	-	st	-			/	-	**NA**							2	c
2017	3462	Rillettes pur porc	Rillettes	st	st	st	st	/	-	0,040	-	st	st			/	-	**NA**							2	c
2017	3466	Rillettes poulet roti	Rillettes	st	-	st	st	/	-	0,042	-	-	st			/	-	**NA**							2	c
2013	1199	Saucisson sec de porc fermier	Dehydrated pork sausage	st	-	st	st	/	-	0,06	-	st	-			/	-	**NA**							2	v

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				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser 22 h at 30°C / RELM 22 h at 30°C									Half Fraser 22h at 30°C / RELM 22h at 30°C + 72h at 5°C +- 3°C							
				OAA	Palcam	OAA	Palcam			D.O.	Result	Confirmatory tests					Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment		
												OAA	Palcam	Gram	Catalase	Identification					OAA	Palcam				
2013	1192	Lait cru entier	Raw milk	st	-	st	-	/	-	0,053	-	st	-			/	-	**NA**							3	a
2013	1540	Lait cru de vache	Cow raw milk	H+/H-	-	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,928	+	H-	+	+	+	*L.innocua*	+	**PA**	2,943	+	H+/H-	+	+	**PA**	3	a
2013	1541	Lait cru de vache	Cow raw milk	-	-	st	-	/	-	0,062	-	st	-			/	-	**NA**							3	a
2013	1542	Lait cru de vache	Cow raw milk	H+	-	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,987	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,974	+	H+/H-	+	+	**PA**	3	a
2013	1543	Lait cru de vache	Cow raw milk	H-	+	H-	+	*L.innocua*	+	2,814	+	H-	+	+	+	*L.innocua*	+	**PA**	3,033	+	H-	+	+	**PA**	3	a
2013	1544	Lait cru de vache	Cow raw milk	H-	+(2)	H-	-	*L.seeligeri*	+	2,78	+	H-	-	+	+	*L.seeligeri*	+	**PA**	2,964	+	H-	-	+	**PA**	3	a
2013	1545	Lait cru de vache	Cow raw milk	H+	+(3)	H+	+	*L.monocytogenes*	+	2,933	+	-	+	+	+	*L.monocytogenes*	+	**PA**	2,947	+	H+	+	+	**PA**	3	a
2013	1546	Lait cru de vache	Cow raw milk	-	-	-	-	/	-	0,11	-	-	-			/	-	**NA**							3	a
2013	1547	Lait cru de vache	Cow raw milk	H+/H-	-	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,933	+	H-	+	+	+	*L.innocua*	+	**PA**	2,969	+	H-	+	+	**PA**	3	a
2013	1548	Lait cru de vache	Cow raw milk	-	-	-	-	/	-	0,08	-	-	-			/	-	**NA**							3	a
2013	1549	Lait cru de vache	Cow raw milk	-	-	H-d	-	*-(catalase-)*	-	0,07	-	-	-			/	-	**NA**							3	a
2013	1550	Lait cru de vache	Cow raw milk	H+	-	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,913	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,942	+	H+	+	+	**PA**	3	a
2013	1897	Lait cru	Raw milk	st	-	st	-	/	-	0,058	-	-	-			/	-	**NA**							3	a
2013	1901	Lait cru	Raw milk	H+	+	H+	+	*L.monocytogenes*	+	2,946	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,454	+	H+	+	+	**PA**	3	a
2013	1952	Lait cru de brebis	Raw ewe milk	H+	+	H+	+	*L.monocytogenes*	+	2,586	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,667	+	H+	+	+	**PA**	3	a
2013	1953	Lait cru de brebis	Raw ewe milk	st	st	-	-	/	-	0,046	-	-	-				-	**NA**							3	a
2013	1954	Lait cru de brebis	Raw ewe milk	H+	+	H+	+	*L.monocytogenes*	+	2,474	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,611	+	H+	+	+	**PA**	3	a
2013	1955	Lait cru de vache	Raw cow milk	st	st	st	st	/	-	0,034	-	st	st				-	**NA**							3	a
2013	2465	Lait cru de vache	Raw cow milk	H-	+	H-	+	*L.innocua*	+	1,148	+	H-	+	+	+	*L.innocua*	+	**PA**	1,474	+	H-	+	+	**PA**	3	a
2013	2466	Lait cru de vache	Raw cow milk	st	st	st	st	/	-	0,054	-	st	st			/	-	**NA**							3	a
2013	1742	Fromage à raclette	Raw milk cheese (Raclette)	-	-	H-d	-	*gram-*	-	0,109	-	-	-			/	-	**NA**	0,117	-	-	-	-	**NA**	3	b
2013	1743	Fromage non affiné de brebis	Ewe raw milk cheese	-	-	st	-	/	-	0,084	-	st	-			/	-	**NA**							3	b
2013	1744	Fromage au lait cru de vache	Cow raw milk cheese	-	-	st	-	/	-	0,085	-	st	-			/	-	**NA**							3	b
2013	1746	Fromage au lait cru	Raw milk cheese	st	st	st	st	/	-	0,065	-	st	st			/	-	**NA**							3	b
2013	1747	Fromage au lait cru	Raw milk cheese	st	st	st	st	/	-	0,075	-	st	st			/	-	**NA**							3	b
2013	1950	Morbier	Raw milk cheese (Morbier)	H+	-	H+	+	*L.monocytogenes*	+	2,331	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,471	+	H+	+	+	**PA**	3	b
2013	1951	Fromage non affiné au lait cru	Raw milk cheese	st	st	st	st	/	-	0,056	-	st	st				-	**NA**							3	b
2013	2304	Livarot	Raw milk cheese	-	-	st	-	/	-	0,05	-	st	-			/	-	**NA**							3	b
2013	2305	Moufton	Raw milk cheese	-	-	st	-	/	-	0,051	-	st	-			/	-	**NA**							3	b
2013	2306	Thym tammare	Raw milk cheese	-	-	st	-	/	-	0,054	-	-	-			/	-	**NA**							3	b
2013	2307	Ginestarie	Raw milk cheese	-	-	st	-	/	-	0,039	-	st	-			/	-	**NA**							3	b
2013	2308	Brillat Savarin	Raw milk cheese	-	-	-	-	/	-	0,055	-	-	-			/	-	**NA**							3	b
2013	2309	Epoisse	Raw milk cheese	st	-	st	-	/	-	0,046	-	st	-			/	-	**NA**							3	b

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Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1/A1♦						Alternative method: Solus *Listeria* ELISA method															Cate-gory	Ty-pe
				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser 22 h at 30°C / RELM 22 h at 30°C									Half Fraser 22h at 30°C / RELM 22h at 30°C + 72h at 5°C +- 3°C							
				OAA	Palcam	OAA	Palcam			D.O.	Result	Confirmatory tests					Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment		
												OAA	Palcam	Gram	Catalase	Identification					OAA	Palcam				
2013	2310	Maroilles	Raw milk cheese	H-	-	H-	+	*L.innocua/ L.welshimeri*	+	2,433	+	H-	+	+	+	*L.innocua*	+	**PA**	2,408	+	H-	+	+	**PA**	3	b
2013	2311	Perche	Raw milk cheese	st	-	st	-	/	-	0,038	-	st	-			/	-	**NA**							3	b
2013	2312	Camembert	Raw milk cheese	-	-	st	-	/	-	0,074	-	-	-			/	-	**NA**							3	b
2013	2313	Carré Corse	Raw milk cheese	-	-	st	-	/	-	0,061	-	-	-			/	-	**NA**	0,035	-	st	-	-	**NA**	3	b
2013	2314	Chèvre pané	Raw milk cheese	-	-	st	-	/	-	0,064	-	-	-			/	-	**NA**	0,045	-	st	st	-	**NA**	3	b
2013	2315	Crottin de chèvre	Raw milk cheese	st	-	st	st	/	-	0,053	-	st	-			/	-	**NA**							3	b
2013	2316	Saint Nectaire	Raw milk cheese	-	-	st	-	/	-	0,104	-	st	-			/	-	**NA**							3	b
2013	2317	Munster	Raw milk cheese	-	-	st	-	/	-	0,09	-	st	-			/	-	**NA**							3	b
2013	2318	Chèvre	Raw milk cheese	st	-	st	st	/	-	0,082	-	st	st			/	-	**NA**							3	b
2013	**2378**	**Carré corse**	**Raw milk cheese**	-	-	st	st	/	-	0,027	-	st	st			/	-	**NA**							3	b
2013	**2379**	**Epoisses**	**Raw milk cheese**	st	st	st	st	/	-	0,022	-	st	st			/	-	**NA**							3	b
2013	**2380**	**Chèvre**	**Raw milk cheese**	st	-	st	st	/	-	0,038	-	H+	+	+	+	*L.ivanovii*	-	**NA**	0,064	-	H+	+	-	**NA**	3	b
2013	**2381**	**Moufton**	**Raw milk cheese**	H+	-	H+	+	*L.ivanovii*	+	0,034	-	H+	1+	+	+	*L.ivanovii*	-	**ND**	0,078	-	H+	+	-	**ND**	3	b
2013	**2382**	**Brillat Savarin**	**Raw milk cheese**	st	-	-	st	/	-	0,033	-	st	st			/	-	**NA**							3	b
2013	2557	Fromage au lait cru	Raw milk cheese	H+	-	H+	-	*L.monocytogenes*	+	2,164	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,822	+	H+	+	+	**PA**	3	b
2013	2558	Fromage au lait cru	Raw milk cheese	H+	+	H+/H-	+	*L.innocua/ L.monocytogenes*	+	1,43	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,759	+	H+	+	+	**PA**	3	b
2013	2559	Fromage au lait cru	Raw milk cheese	-	-	st	st	/	-	0,046	-	st	-			/	-	**NA**							3	b
2013	2560	Fromage au lait cru	Raw milk cheese	H+	+	H+	+	*L.monocytogenes*	+	2,63	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,795	+	H+	+	+	**PA**	3	b
2013	2562	Fromage au lait cru	Raw milk cheese	-	-	H+	+	*L.monocytogenes*	+	1,314	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,74	+	H+	+	+	**PA**	3	b
2013	2563	Fromage au lait cru	Raw milk cheese	-	-	-	-	/	-	0,052	-	st	-			/	-	**NA**							3	b
2013	2564	Fromage au lait cru	Raw milk cheese	H+	+	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,546	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,728	+	H+	+	+	**PA**	3	b
2013	**2708**	**Maroilles**	**Raw milk cheese (Maroilles)**	H+	+(1)	H+	+	*L.monocytogenes*	+	1,003	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,816	+	H+	+	+	**PA**	3	b
2013	**2709**	**Livarot**	**Raw milk cheese (Livarot)**	st	-	st	st	/	-	0,578	+	H-	+	+	+	*L.innocua*	+	**PD**	2,657	+	H-	+	+	**PD**	3	b
2013	2710	Saint Nectaire	Raw milk cheese (Saint Nectaire)	-	-	st	-	/	-	0,041	-	st	-			/	-	**NA**							3	b
2013	2711	Camembert	Raw milk cheese (Camembert)	-	-	-	-	/	-	0,043	-	st	-			/	-	**NA**							3	b
2013	2712	Munster	Raw milk cheese (Munster)	-	-	st	-	/	-	0,057	-	st	-			/	-	**NA**							3	b
2013	1332	Emmental	Cheese (Emmental)	H+	+	H+	+	*L.monocytogenes*	**+**	3,004	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,966	+	H+/H+	+	+	**PA**	3	c
2013	1745	Fromage au lait cru de vache	Cow raw milk cheese	H+	-	H+	+	*L.monocytogenes*	+	2,791	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,937	+	H+	+	+	**PA**	3	c
2013	2561	Emmental	Cheese(Emmental)	-	-	st	st	/	-	0,088	-	-	st			/	-	**NA**							3	c
2013	1193	Crème crue	Raw cream	st	-	st	-	/	**-**	0,068	-	st	-			/	**-**	**NA**							3	c
2013	1331	Préparation pour pizza à la Mozarella	Preparation for pizza	H+	+	H+	+	*L.monocytogenes*	**+**	2,984	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,943	+	H+/H+	+	+	**PA**	3	c
2013	1336	Mélange de fromages pour pizza	Mix of cheese for pizza	H+	+	H+	+	*L.monocytogenes*	**+**	2,928	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,938	+	H+	+	+	**PA**	3	c
2013	1350	Chèvre pané	Goat cheese	H-d	-	-	-	*-(Gram-)*	**-**	0,096	-	-	-			/	-	**NA**							3	c

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				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser 22 h at 30°C / RELM 22 h at 30°C									Half Fraser 22h at 30°C / RELM 22h at 30°C + 72h at 5°C +- 3°C							
				OAA	Palcam	OAA	Palcam			D.O.	Result	Confirmatory tests					Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment		
												OAA	Palcam	Gram	Catalase	Identification					OAA	Palcam				
2013	1356	Feuilleté chèvre	Goat cheese puff	H+/H-	+	H+/H-	+	*L.innocua/ L.monocytogenes*	**+**	2,941	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,888	+	H+/H-	+	+	**PA**	3	c
2013	**2704**	**Chantilly**	**Chantilly**	H+	+	H+	+	*L.monocytogenes*	+	2,357	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,94	+	H+	+	+	**PA**	3	c
2013	**2705**	**Mascarpone**	**Mascarpone**	H+	+	H+	+	*L.monocytogenes*	+	2,463	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,875	+	H+	+	+	**PA**	3	c
2013	**2706**	**Mascarpone**	**Mascarpone**	H-	+	H-	+	*L.innocua*	+	2,524	+	H-	+	+	+	*L.innocua*	+	**PA**	2,868	+	H-	+	+	**PA**	3	c
2013	**2707**	**Ricotta**	**Ricotta**	H-	+	H-	+	*L.innocua*	+	2,587	+	H-	+	+	+	*L.innocua*	+	**PA**	2,887	+	H-	+	+	**PA**	3	c
2017	2939	Mascarpone	Mascarpone	st	st	st	st	/	-	0,053	-	st	st			/	-	**NA**							3	c
2017	2940	Ricotta	Ricotta	st	st	st	st	/	-	0,037	-	-	st			/	-	**NA**							3	c
2017	2941	Roquefort Lait pasteurisé	Pasteurised milk cheese	-	-	st	st	/	-	0,051	-	-	st			/	-	**NA**							3	c
2017	2942	Bleu d'auvergne Lait pasteurisé	Pasteurised milk cheese	st	-	st	-	/	-	0,045	-	-	-			/	-	**NA**							3	c
2017	2943	Mozarella	Pasteurised milk cheese	-	st	st	-	/	-	0,034	-	st	-			/	-	**NA**							3	c
2017	2944	Concoillote	Pasteurised milk cheese	st	st	st	st	/	-	0,037	-	st	st			/	-	**NA**							3	c
2017	2945	Fromage de chévre	Pasteurised milk cheese	st	st	st	st	/	-	0,041	-	st	st			/	-	**NA**							3	c
2017	2946	Panna cotta	Pasteurised milk desert	st	st	st	-	/	-	0,036	-	st	st			/	-	**NA**							3	c

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				OAA	Palcam	OAA	Palcam			D.O.	Result	Confirmatory tests					Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment		
												OAA	Palcam	Gram	Catalase	Identification					OAA	Palcam				
2013	1178	Filet de Panga	Panga fillet	H+/H-	+	H+/H-	+	*L.innocua/ L.monocytogenes*	+	3,08	+	H-	+	+	+	*L.innocua*	+	**PA**	2,95	+	H-	+	+	**PA**	4	a
2013	1179	Bloc de saumon	Piece of salmon	H+	+	H+	+	*L.monocytogenes*	+	3,05	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,981	+	H+	+	+	**PA**	4	a
2013	1180	Filet de Panga	Panga fillet	H+	+	H+	+	*L.monocytogenes*	+	3,044	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,981	+	H+	+	+	**PA**	4	a
2013	1182	Morceaux de filets de saumon	Pieces of salmon	st	-	st	st	/	-	0,12	-	st	st			/	-	**NA**							4	a
2013	1183	Filet d'Eglefin	Fillet of haddock	st	-	st	-	/	-	0,098	-	st	-			/	-	**NA**							4	a
2013	1783	Filet de carrelet cru	Raw fish fillet	st	st	st	st	/	-	0,058	-	st	-			/	-	**NA**							4	a
2013	1785	Noix de Saint-Jacques	Scallops	H-	-	H-	+	*L.innocua*	+	2,954	+	H-	+	+	+	*L.innocua*	+	**PA**	2,925	+	H-	+	+	**PA**	4	a
2013	1786	Filet de Panga	Fish fillet	H+/H-	+	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,859	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,954	+	H+	+	+	**PA**	4	a
2013	1790	Filet de merlu cru	Raw fish fillet	st	st	st	st	/	-	0,11	-	st	st			/	-	**NA**							4	a
2013	2547	Noix de Saint-Jacques	Scallops	-	-	st	-	/	-	0,051	-	-	-			/	-	**NA**							4	a
2013	2549	Bloc de saumon	Piece of salmon	st	-	st	st	/	-	0,048	-	-	-			/	-	**NA**							4	a
2013	2550	Noix de Saint-Jacques	Scallops	H+/H-	+	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,357	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,838	+	H+/H-	+	+	**PA**	4	a
2013	2551	Filet de Panga	Fish fillet	H+/H-	+	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,554	+	H-	+	+	+	*L.innocua*	+	**PA**	2,759	+	H+/H-	+	+	**PA**	4	a
2013	2553	Cubes de poisson blanc	White fish pieces	st	-	st	st	/	-	0,024	-	st	st			/	-	**NA**							4	a
2013	2554	Filet de Panga	Fish filet	-	-	st	st	/	-	0,033	-	st	st			/	-	**NA**							4	a
2017	2952	Filet d'eglefin	Raw fish	st	-	H-d	-	*L. seeligeri*	+	2,714	+	H-d	+	+	+	*L. seeligeri*	+	**PA**	2,615	+	H-	+	+	**PA**	4	a
2017	2953	Tacaud	Raw fish	st	-	st	st	/	-	0,052	-	st	-			/	-	**NA**							4	a
2017	2954	Rouget barbet	Raw fish	st	st	st	-	/	-	0,053	-	st	-			/	-	**NA**							4	a
2017	2955	Merlan	Raw fish	st	st	st	-	/	-	0,072	-	st	-			/	-	**NA**							4	a
2017	2956	Maquereau	Raw fish	st	-	st	-	/	-	0,062	-	st	-			/	-	**NA**							4	a
2017	3469	Filet merlu	Raw fish	st	-	st	-	/	-	0,050	-	st	-			/	-	**NA**							4	a
2017	3470	Longe espadon	Raw fish	st	-	st	st	/	-	0,047	-	st	st			/	-	**NA**							4	a
2017	3471	Steak de thon	Raw fish	st	-	st	-	/	-	0,048	-	st	-			/	-	**NA**							4	a
2013	1381	Saumon fumé	Smoked salmon	H+	+	H+	+	*L.monocytogenes*	+	2,874	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,875	+	H+	+	+	**PA**	4	b
2013	1382	Saumon fumé	Smoked salmon	st	st	st	st	/	-	0,026	-	st	-			/	-	**NA**							4	b
2013	1788	Saumon fumé	Smoked salmon	H+	-	H+	+	*L.monocytogenes*	+	2,932	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,929	+	H+	+	+	**PA**	4	b
2013	2345	Saumon fumé	Smoked salmon	st	-	st	-	/	-	0,055	-	st	-			/	-	**NA**							4	b
2013	2346	Saumon fumé	Smoked salmon	st	-	st	st	/	-	0,05	-	st	st			/	-	**NA**							4	b
2013	2347	Saumon fumé	Smoked salmon	-	-	st	st	/	-	0,045	-	-	-			/	-	**NA**							4	b
2013	2348	Saumon fumé	Smoked salmon	st	st	st	st	/	-	0,022	-	st	-			/	-	**NA**							4	b
2013	2349	Truite fumée	Smoked trout	st	st	st	st	/	-	0,033	-	st	st			/	-	**NA**							4	b
2013	2350	Haddock fumé	Smoked Haddock	st	st	st	st	/	-	0,032	-	st	st			/	-	**NA**							4	b

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				OAA	Palcam	OAA	Palcam			D.O.	Result	Confirmatory tests					Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment		
												OAA	Palcam	Gram	Catalase	Identification					OAA	Palcam				
2013	2351	Truite fumée	Smoked trout	st	st	-	-	/	-	0,198	-	st	-			/	-	**NA**							4	b
2013	2352	Harengs marinés	Marinated herring	st	-	-	-	/	-	0,076	-	-	-			/	-	**NA**							4	b
2013	2353	Saumon mariné aneth-citron	Marinated salmon	st	-	st	st	/	-	0,057	-	st	st			/	-	**NA**							4	b
2013	2354	Saumon mariné	Marinated salmon	st	-	st	st	/	-	0,07	-	st	-			/	-	**NA**							4	b
2013	2361	Saumon mariné au citron vert	Marinated salmon (green lemon)	H+	+	H+	+	*L.monocytogenes*	+	2,168	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,338	H+	H+	+	+	**PA**	4	b
2013	**2373**	**Saumon frais mariné**	**Marinated salmon**	st	st	st	st	/	-	0,016	-	st	st			/	-	**NA**							4	b
2013	**2374**	**Saumon fumé**	**Smoked salmon**	H+ (1)	-	H+	+	*L.monocytogenes*	+	2,187	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,493	+	H+	+	+	**PA**	4	b
2013	**2375**	**Haddock fumé**	**Smoked haddock**	H+ (1)	+(1)	H+	+	*L.monocytogenes*	+	2,193	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,478	+	H+	+	+	**PA**	4	b
2013	**2376**	**Emincé de saumon fumé à l'aneth**	**Smoked sliced salmon with dill**	H+ (2)	+(4)	H+	+	*L.monocytogenes*	+	2,23	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,527	+	H+	+	+	**PA**	4	b
2013	**2377**	**Truite fumée**	**Smoked trout**	H+ (6)	+(5)	H+	+	*L.monocytogenes*	+	1,985	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,533	+	H+	+	+	**PA**	4	b
2013	**2713**	**Saumon fumé**	**Smoked salmon**	H+	+(2)	H+	+	*L.monocytogenes*	+	1,34	+	H+	-	+	+	*L.monocytogenes*	+	**PA**	2,899	+	H+	+	+	**PA**	4	b
2013	**2714**	**Saumon fumé**	**Smoked salmon**	st	-	st	st	/	-	0,051	+	st	st			/	-	**NA**							4	b
2013	1177	Tartare de Saint Jacques, estragon et citron	Scallops tartar	-	-	-	-	/	-	0,124	-	st	st			/	-	**NA**							4	c
2013	1181	Tarama de saumon	Salmon tarama	st	-	-	-	/	-	0,108	-	st	st			/	-	**NA**							4	c
2013	1333	Scraps de saumon	Salmon scraps	H+	+	H+	+	*L.monocytogenes*	+	1,192	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,398	+	H+/H-	+	+	**PA**	4	c
2013	1335	Poisson blanc pané	White fish	st	st	-	-	/	-	0,096	-	st	st			/	-	**NA**							4	c
2013	1338	Salade du pêcheur	Salad with seafood	st	+(1)	st	st	*L.monocytogenes*	+	2,882	+	H+	+			*L.monocytogenes*	+	**PA**	2,975	+	H+	+	+	**PA**	4	c
2013	1342	Panier de Saint-Jacques	Ready to eat scallops	st	-	-	-	/	-	0,193	-	-	-			/	-	**NA**							4	c
2013	1784	Croquettes de poisson panées	Breaded fish	st	-	H-	-	*gram-*	-	0,093	-	-	-			/	-	**NA**							4	c
2013	1787	Cabillaud pané	Breaded cod	H+	-	H+	+	*L.monocytogenes*	+	2,945	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,891	+	H+	+	+	**PA**	4	c
2013	1789	Panier feuilleté de saumon	Salmon puff	-	-	H+	-	*L.monocytogenes*	+	0,932	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	1,995	+	H+	+	+	**PA**	4	c
2013	1791	Colin cuit	Cooked fish	st	-	st	-	/	-	0,119	-	st	-			/	-	**NA**							4	c
2013	1792	Tartare de Saint-jacques et légumes	Scallops tartar	-	-	-	-	/	-	0,059	-	-	-			/	-	**NA**							4	c
2013	1793	Coquille Saint-Jacques	Scallops	H- (1)	-	H-	-	*L.seeligeri*	+	1,423	+	H-	+	+	+	*L.seeligeri*	+	**PA**	2,104	+	H-	+	+	**PA**	4	c
2013	1794	Feuilleté de Saint-Jacques	Scallops puff	H+/H-	-	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,772	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,902	+	H+/H-	+	+	**PA**	4	c
2013	2355	Coquilles Saint-Jacques	Scallops	st	-	-	-	/	-	0,052	-	-	-			/	-	**NA**							4	c
2013	2356	Rillettes de thon	Tuna rillettes	H+/H-	+	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,225	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,356	H+/H-	H+/H-	+	+	**PA**	4	c
2013	2357	Feuilletés saumon crevettes	Salmon and shrimps puff	H+/H-	-	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,163	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,17	H+/H-	H+/H-	+	+	**PA**	4	c
2013	2358	Coquilles Saint-Jacques à la Bretonne	Cooked scallops	H+	+	H+	-	*L.monocytogenes*	+	2,387	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,246	H+	H+	+	+	**PA**	4	c

SEAFOOD																											
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1/A1♦						Alternative method: Solus *Listeria* ELISA method															Cate-gory	Ty-pe
				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser 22 h at 30°C / RELM 22 h at 30°C									Half Fraser 22h at 30°C / RELM 22h at 30°C + 72h at 5°C +- 3°C							
				OAA	Palcam	OAA	Palcam			D.O.	Result	Confirmatory tests					Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment		
												OAA	Palcam	Gram	Catalase	Identification					OAA	Palcam				
2013	2359	Panier aux deux saumons	Salmon puff	H+/H-	-	H+/H-	+	*L.welshimeri/ L.monocytogenes*	+	1,974	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,034	H+/H-	H+/H-	+	+	**PA**	4	c
2013	2360	Tourte au filet de saumon	Salmon fillet pie	H-	-	H-	+	*L.innocua*	+	2,313	+	H-	+	+	+	*L.innocua*	+	**PA**	2,483	H-	H-	+	+	**PA**	4	c
2013	2362	Panier Saint-Jacques asperges	Cooked scallops and asparagus	H+	+	H+	-	*L.monocytogenes*	+	2,26	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,173	H+	H+	+	+	**PA**	4	c
2013	2363	Sandwich thon crudités	Vegetables and tuna sandwich	-	-	st	st	/	-	0,06	-	-	-			/	-	**NA**							4	c
2013	2544	Beurre de saumon	Salmon butter	H+	+	H+	+	*L.monocytogenes*	+	2,322	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,908	+	H+	+	+	**PA**	4	c
2013	2545	Merlu blanc pané	Breaded hake	st	-	-	-	/	-	0,158	-	-	-				-	**NA**							4	c
2013	2546	Scraps de saumon	Salmon scraps	H+ (1)	-	-	st	*L.monocytogenes*	+	2,870	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	1,105	+	H+	+	+	**PA**	4	c
2013	2548	Pavé de lieu noir mariné	Marinated fish	H-	+	H-	+	*L.welshimeri*	+	2,374	+	H-	+	+	+	*L.welshimeri*	+	**PA**	2,858	+	H-	+	+	**PA**	4	c
2013	2552	Filet de poisson meunière	Fish fillet	st	-	-	-	/	-	0,034	-	-	-				-	**NA**							4	c
2013	2555	Fromentier de saumon fumé	Smoked salmon	H+ (1)	+(2)	H+	+	*L.monocytogenes*	+	2,33	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,838	+	H+	+	+	**PA**	4	c
2013	2556	Terrine de saumon	salmon terrine	H+	+	H+	+	*L.monocytogenes*	+	2,33	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,81	+	H+	+	+	**PA**	4	c

VEGETABLES																											
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				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser 22 h at 30°C / RELM 22 h at 30°C									Half Fraser 22h at 30°C / RELM 22h at 30°C + 72h at 5°C +- 3°C							
				OAA	Palcam	OAA	Palcam			D.O.	Result	Confirmatory tests					Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment		
												OAA	Palcam	Gram	Catalase	Identification					OAA	Palcam				
2013	1175	Epinards hachés	Chopped spinach	-	-	-	-	/	-	0,133	-	st	-			/	-	**NA**							5	a
2013	1176	Courgettes en julienne	Sliced zucchini	H+	+	H+	+	*L.monocytogenes*	+	2,971	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,991	+	H+	+	+	**PA**	5	a
2013	1184	Epinards branches	Spinach	-	-	-	-	/	-	0,083	-	-	-			/	-	**NA**							5	a
2013	1186	Pois carottes surgelés	Frozen peas and carrots	H+/H-	+	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,92	+	H-	+	+	+	*L.innocua*	+	**PA**	2,929	+	H-	+	+	**PA**	5	a
2013	1188	Fagots d'asperges vertes	Green asparagus	H+	+	H+	+	*L.monocytogenes*	+	3,011	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,942	+	H+	+	+	**PA**	5	a
2013	1191	Jus d'épinards	Spinach juice	st	st	st	st	/	-	0,071	-	st	-			/	-	**NA**							5	a
2013	1339	Trio de fleurettes	Cauliflower	-	-	-	-	/	-	0,051	-	H-d	-		-	/	-	**NA**							5	a
2013	1772	Pois carotte surgelés	Frozen peas and carrots	-	-	-	-	/	-	0,141	-	-	-			/	-	**NA**							5	a
2013	1774	Lanières de poivrons verts	Slices of green pepper	H+/H-	+	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,874	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	3,058	+	H+	+	+	**PA**	5	a
2013	1777	Cubes de poivrons rouges	Red pepper	H+	st	H+	+	*L.monocytogenes*	+	2,867	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,95	+	H+	+	+	**PA**	5	a
2013	1781	Carottes surgelées	Frozen carrots	H-	+	H-	+	*L.innocua*	+	2,968	+	H-	+	+	+	*L.innocua*	+	**PA**	2,91	+	H-	+	+	**PA**	5	a
2013	1782	Légumes pour ratatouille	Vegetables for ratatouille	-	-	-	st	/	-	0,048	-	-	-			/	-	**NA**							5	a
2013	2367	Courgettes cubes	Zucchini cubes	H-	+	H-	+	*L.seeligeri*	+	2,528	+	H-	+	+	+	*L.seeligeri*	+	**PA**	2,357	H-	H-	+	+	**PA**	5	a
2013	2368	Pommes de terre crues	Raw potatoes	st	st	st	st	/	-	0,071	-	st	st			/	-	**NA**							5	a
2013	2369	Jeunes carottes	Carrots	-	-	st	st	/	-	0,045	-	-	-			/	-	**NA**							5	a
2013	2429	Oignons préfrits	Cooked onions	H+/H-	+	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,506	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,203	+	H+/H-	+	+	**PA**	5	a
2013	2430	Champignons	Mushrooms	H+/H-	+	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,19	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	1,191	+	H+/H-	+	+	**PA**	5	a
2013	2431	Epinards hachés	Chopped spinach	H+	+	H+	+	*L.monocytogenes*	+	2,273	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,305	+	H+	+	+	**PA**	5	a
2013	2433	Légumes pour ratatouille	Vegetables for ratatouille	-	st	st	st	/	-	0,036	-	-	-			/	-	**NA**							5	a
2013	**4046**	**Fèves extra fines surgelées**	**Frozen beans**	H-	+	H-	+	*L.innocua*	+	0,954	+	H-	+	+	+	*L.innocua*	+	**PA**	3,043	+	H-	+	+	**PA**	5	a
2013	**4047**	**Petis pois surgelées**	**Frozen peas**	H-	+	H-	+	*L.innocua*	+	2,910	+	H-	+	+	+	*L.innocua*	+	**PA**	3,088	+	H-	+	+	**PA**	5	a
2013	**4048**	**Haricots verts surgelés**	**Frozen beans**	H+ (1)	+	H+ (1)	+	*L.monocytogenes*	+	2,877	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,97	+	H+	+	+	**PA**	5	a
2013	1748	Ciboulette	Chive	-	+(3)	-	-	*gram-*	-	0,139	-	-	-			/	-	**NA**	0,109	-	-	-	-	**NA**	5	b
2013	1749	Persil plat	Parsley	H-	-	H-	+	*L.innocua*	+	3,037	+	H-	+	+	+	*L.innocua*	+	**PA**	2,893	+	H-	+	+	**PA**	5	b
2013	1750	Persil plat	Parsley	st	st	st	st	/	-	0,084	-	st	st			/	-	**NA**							5	b
2013	1751	Persil	Parsley	st	st	st	st	/	-	0,075	-	st	st			/	-	**NA**							5	b
2013	1752	Estragon	Tarragon	st	st	st	st	/	-	0,092	-	st	st			/	-	**NA**							5	b
2013	1753	Ciboulette	Chive	-	-	-	st	/	-	0,082	-	st	-			/	-	**NA**							5	b
2013	1754	Persil plat	Parsley	-	-	-	st	/	-	2,933	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PD**	2,829	+	H+/H-	+	+	**PD**	5	b
2013	1755	Persil plat	Parsley	-	-	st	st	/	-	2,918	+	H+	+	+	+	*L.innocua*	+	**PD**	2,893	+	H-	+	+	**PD**	5	b

♦ Analyses performed according to the COFRAC accreditation

VEGETABLES																											
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				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser 22 h at 30°C / RELM 22 h at 30°C									Half Fraser 22h at 30°C / RELM 22h at 30°C + 72h at 5°C +- 3°C							
				OAA	Palcam	OAA	Palcam			D.O.	Result	Confirmatory tests					Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment		
												OAA	Palcam	Gram	Catalase	Identification					OAA	Palcam				
2013	1756	Ciboulette	Chive	-	-	-	-	/	-	0,231	+	-	-			/	-	**PPNA**	0,166	-	-	-	-	**NA**	5	b
2013	2372	Ciboulette	Chive	st	-	-	-	/	-	0,05	-	st	st			/	-	**NA**							5	b
2013	2432	Persil plat	Parsley	-	st	-	st	/	-	0,029	-	-	-			/	-	**NA**							5	b
2013	2715	Ciboulette	Chive	-	-	-	-	/	-	0,128	-	-	st			/	-	**NA**							5	b
2013	2716	Persil	Parsley	-	-	st	st	/	-	0,035	-	st	-			/	-	**NA**							5	b
2013	2717	Ciboulette	Chive	-	-	st	st	/	-	0,031	-	-	st			/	-	**NA**							5	b
2013	2718	Ciboulette	Chive	-	-	-	-	/	-	0,036	-	-	-			/	-	**NA**							5	b
2013	2719	Ciboulette	Chive	-	-	st	st	/	-	0,046	-	-	-			/	-	**NA**							5	b
2013	2720	Persil plat	Parsley	-	-	-	st	/	-	0,046	-	-	st			/	-	**NA**							5	b
2013	**2721**	**Curry**	**Curry**	-	-	-	-	/	-	0,04	-	-	-			/	-	**NA**							5	b
2013	**2763**	**Curcuma**	**Curcuma**	st	st	st	st	/	-	0,037	-	st	st			/	-	**NA**							5	b
2013	**2764**	**Papika**	**Paprika**	-	st	-	-	/	-	0,04	-	st	st			/	-	**NA**							5	b
2013	**2765**	**Muscade**	**Nutmeg**	st	st	st	st	/	-	0,048	-	st	st			/	-	**NA**							5	b
2013	**2766**	**Curcuma**	**Curcuma**	st	st	st	st	/	-	0,044	-	st	st			/	-	**NA**							5	b
2013	**2767**	**Paprika**	**Paprika**	st	st	st	st	/	-	0,048	-	st	st			/	-	**NA**							5	b
2013	**3456**	**Ciboulette déshydratée**	**Dehydrated chive**	st	-	-	-	/	-	0,111	-	-	-			/	-	**NA**							5	b
2013	**3457**	**Oignons déshydratés**	**Dehydrated onions**	-	-	-	-	/	-	2,189	+	H-	+	+	+	*L.seeligeri*	+	**PD**	2,861	+	H-	+	+	**PD**	5	b
2013	**3458**	**Persil déshydraté**	**Dehydrated parsley**	-	-	-	-	/	-	0,141	-	-	-			/	-	**NA**							5	b
2013	**3459**	**Basilic déshydraté**	**Dehydrated basil**	-	-	-	-	/	-	0,1	-	-	-			/	-	**NA**							5	b
2013	**3460**	**Ciboulette déshydratée**	**Dehydrated chive**	-	-	-	-	/	-	0,109	-	-	-			/	-	**NA**							5	b
2013	**3461**	**Persil déshydraté**	**Dehydrated parsley**	-	-	H-	+	*L.seeligeri*	+	2,809	+	H-	+	+	+	*L.seeligeri*	+	**PA**	2,83	+	H-	+	+	**PA**	5	b
2013	**3462**	**Basilic déshydraté**	**Dehydrated basil**	H-d	-	H-	+	*L.seeligeri*	+	2,772	+	H-	+	+	+	*L.seeligeri*	+	**PA**	2,887	+	H-	+	+	**PA**	5	b
2017	**3093**	**Curcuma moulu**	Spices	H+	-	H+	-	*L.monocytogenes*	+	2,616	+	H+	+	+	+	*L. monocytogenes*	+	**PA**	2,692	+	H+	+	+	**PA**	5	b
2017	**3094**	**Piment fort**	Spices	H+	-	H+	+	*L.monocytogenes*	+	2,577	+	H+	+	+	+	*L. monocytogenes*	+	**PA**	2,682	+	H+	+	+	**PA**	5	b
2017	**3095**	**Persil frais**	Parsley	-	-	-	-	/	-	0,043	-	-	-			/	-	**NA**							5	b
2017	**3096**	**Persil frais**	Parsley	H-	+	H-	+	*L.innocua*	+	2,626	+	H-	+	+	+	*L. innocua*	+	**PA**	2,699	+	H-	+	+	**PA**	5	b
2017	**3097**	**Ciboulette fraiche**	Chives	-	-	H+/H-	+	*L.monocytogenes / L. seeligeri*	+	2,61	+	H+/H-	+	+	+	*L.monocytogenes / L. seeligeri*	+	**PA**	2,685	+	H+/H-	+	+	**PA**	5	b
2017	**3098**	**Ciboulette fraiche**	Chives	-	-	H-	+	*L.innocua*	+	1,131	+	H-	-	+	+	*L. innocua*	+	**PA**	1,151	+	H-	+	+	**PA**	5	b
2017	**3099**	**Coriandre fraiche**	Chives	-	-	-	-	/	-	0,085	-	-	-			/	-	**NA**							5	b
2013	1185	Purée de pois cassés	Peas purée	st	st	st	st	/	-	0,125	-	st	st			/	-	**NA**							5	c
2013	1187	Velouté de champignons	Cream of mushrooms	st	st	st	st	/	-	0,145	-	-	st			/	-	**NA**							5	c
2013	1189	Pois chiches	Chick peas	H-	+	H-	+	*L.innocua/ L.monocytogenes*	+	2,952	+	H-	+	+	+	*L.innocua*	+	**PA**	2,942	+	H+	+	+	**PA**	5	c
2013	1190	Poireaux à la crème	Links with cream	st	st	st	st	/	-	0,076	-	st	st			/	-	**NA**							5	c
2013	1330	Macédoine	Vegetables mix	-	-	st	-	/	-	0,07	-	st	-			/	-	**NA**							5	c
2013	1337	Potage aux légumes	Vegetables soup	st	st	st	st	/	-	0,051	-	st	st			/	-	**NA**							5	c

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				OAA	Palcam	OAA	Palcam			D.O.	Result	Confirmatory tests					Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment		
												OAA	Palcam	Gram	Catalase	Identification					OAA	Palcam				
2013	1340	Gratin de choux fleur	Cauliflower gratin	-	+(2)	H+/H-	+	*L.innocua/ L.monocytogenes*	**+**	2,994	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,869	+	H+/H-	+	+	**PA**	5	c
2013	1341	Potage légumes du soleil	Vegetables soup	st	-	-	-	/	**-**	0,084	-	-	-			/	-	**NA**							5	c
2013	1349	Poêlée de riz à la Bretonne	Rice and vegetables	-	-	-	-	/	**-**	0,029	-	st	st			/	-	**NA**							5	c
2013	1353	Boulgour et céréales en taboulé	Tabbouleh	-	-	-	-	/	**-**	0,167	-	-	-			/	-	**NA**							5	c
2013	1773	Purée carottes navets	Carrots and turnip purée	-	-	-	-	/	-	0,175	-	-	st			/	-	**NA**							5	c
2013	1775	Purée de brocolis	Broccoli purée	st	st	st	st	/	-	0,162	-	st	-			/	-	**NA**							5	c
2013	1776	Tomates après tranchage	Tomatoes	st	st	st	st	/	-	0,04	-	st	st			/	-	**NA**							5	c
2013	1778	Gratin de choux fleur	Cauliflower gratin	st	st	-	-	/	-	0,047	-	st	st			/	-	**NA**							5	c
2013	1779	Aubergines	Eggplants	st	st	st	st	/	-	0,046	-	st	st			/	-	**NA**							5	c
2013	1780	Potage légumes	Vegetables soup	st	-	H-	+	*L.innocua*	+	2,983	+	H-	+	+	+	*L.innocua*	+	**PA**	3,008	+	H-	+	+	**PA**	5	c
2013	2364	Riz niçois	Rice salad	st	-	st	st	/	-	0,038	-	st	st			/	-	**NA**							5	c
2013	2365	Bol de soupe Pistou	Pistou soup	H+	+	H+	+	*L.monocytogenes*	+	2,46	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,461	H+	H+	+	+	**PA**	5	c
2013	2366	Bol de soupe aux céréales	Cereals soup	H+/H-	+	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,69	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,515	H+	H+	+	+	**PA**	5	c
2013	2370	Salade Niçoise	Deli salad	st	-	-	-	/	-	0,054	-	st	-			/	-	**NA**							5	c
2013	2371	Tagine de patates douces	Sweet potato tagine	H+/H-	+	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,613	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,484	H+/H-	H+/H-	+	+	**PA**	5	c
2013	**4049**	**Galettes de légumes surgelées**	**Frozen vegetables patties**	H+	+	H+	+	*L.monocytogenes*	+	2,870	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	3,048	+	H+	+	+	**PA**	5	c

ENVIRONMENTAL SAMPLES																											
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1/A1♦						Alternative method: Solus *Listeria* ELISA method															Cate-gory	Ty-pe
				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser 22 h at 30°C / RELM 22 h at 30°C									Half Fraser 22h at 30°C / RELM 22h at 30°C + 72h at 5°C +- 3°C							
				OAA	Palcam	OAA	Palcam			D.O.	Result	Confirmatory tests					Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment		
												OAA	Palcam	Gram	Catalase	Identification					OAA	Palcam				
2013	1455	Eau parmentière à langues	Process water(pork industry)	st	st	st	st	/	-	0,046	-	st	st			/	-	**NA**							6	a
2013	1456	Eau bac échaudage	Process water(pork industry)	st	st	st	st	/	-	0,113	-	st	st			/	-	**NA**							6	a
2013	1551	Eau parage N°2	Process water	H+	+	H+	+	*L.monocytogenes*	+	2,901	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	3,012	+	H+	+	+	**PA**	6	a
2013	1552	Eau peleuse	Process water	st	st	st	st	/	-	0,133	-	st	st			/	-	**NA**							6	a
2013	1553	Eau épineuse	Process water	st	-	st	st	/	-	0,063	-	st	st			/	-	**NA**							6	a
2013	1554	Eau filtre rotatif	Process water	H+	+	H+	+	*L.monocytogenes*	+	2,977	+	H+/H-	+	+	+	*L.welshimeri/ L. monocytogenes*	+	**PA**	2,978	+	H+	+	+	**PA**	6	a
2013	1555	Eau dessus baader	Process water	st	+	H-d	+	*L.welshimeri*	+	2,95	+	H-	+	+	+	*L.welshimeri*	+	**PA**	2,951	+	H-	+	+	**PA**	6	a
2013	1644	Eau douchette sausisserie	Process water	st	st	st	st	/	-	0,045	-	st	st			/	-	**NA**							6	a
2013	1645	Eau parmentière à langues	Process water	st	st	st	st	/	-	0,045	-	st	st			/	-	**NA**							6	a
2013	1818	Eau de lavage cutter	Process water	H-	+	H-	+	*L.innocua*	+	2,446	+	H-	+	+	+	*L.innocua*	+	**PA**	2,927	+	H-	+	+	**PA**	6	a
2013	2297	Eau polychiller AB1	Process water(poultry industry)	H+/H-	-	H+/H-	+	*L.innocua/ L.monocytogenes*	+	1,932	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	1,733	+	H+/H-	-	+	**PA**	6	a
2013	2298	Eau polychiller CD1	Process water(poultry industry)	H+/H-	-	H+/H-	-	*L.innocua/ L.monocytogenes*	+	1,882	+	H+/H-	-	+	+	*L.welshimeri/ L. monocytogenes*	+	**PA**	1,458	+	H+/H-	-	+	**PA**	6	a
2013	2299	Eau spinchiller B	Process water(poultry industry)	st	st	st	st	/	-	0,031	-	st	st			/	-	**NA**							6	a
2013	2300	Eau ruissellement cous plumeuses	Process water(poultry industry)	-	-	st	-	/	-	0,033	-	st	-			/	-	**NA**							6	a
2013	2301	Eau spinchiler cous	Process water(poultry industry)	st	st	st	st	/	-	0,025	-	st	st			/	-	**NA**							6	a
2017	**3100**	**Eau production poisson**	Process water (fish production)	H-	+	H-	+	*L.innocua*	+	2,704	+	H-	+	+	+	*L. innocua*	+	**PA**	2,682	+	H-	+	+	**PA**	6	a
2017	**3101**	**Eau production porc Knacki**	Process water (Pork meat production)	H+/H-	+	H+/H-	+	*L.monocytogenes / L.innocua*	+	2,578	+	H+	+	+	+	*L. monocytogenes*	+	**PA**	2,598	+	H+	+	+	**PA**	6	a
2017	**3102**	**Eau production porc**	Process water (Pork meat production)	st	-	st	-	/	-	0,032	-	st	st			/	-	**NA**							6	a
2017	3479	Eau production viande	Process water (Meat production)	st	-	st	st	/	-	0,059	-	st	st			/	-	**NA**							6	a
2017	3480	Eau production viande animaux	Process water (Feed production)	st	-	st	st	/	-	0,046	-	st	-			/	-	**NA**							6	a
2017	3481	Eau production végétaux	Process water (Vegetables production)	st	st	st	st	/	-	0,068	-	st	st			/	-	**NA**							6	a
2013	1459	Chiffonnette tapis bande ligne 3 découpe 2	Wipe	H-	+	H-	+	*L.innocua*	+	3,051	+	H-	+	+	+	*L.innocua*	+	**PA**	2,951	+	H-	+	+	**PA**	6	b
2013	1556	Lingette SAS cafétéria	Wipe	H+/H-	-	H+(2)/H-	+	*L.welshimeri/ L.monocytogenes*	+	2,929	+	H+/H-	+	+	+	*L.welshimeri/ L. monocytogenes*	+	**PA**	2,93	+	H+/H-	+	+	**PA**	6	b
2013	1557	Lingette SAS hygiène	Wipe	H+/H-	+	H+/H-	+	*L.welshimeri/ L.monocytogenes*	+	2,929	+	H+/H-	+	+	+	*L.welshimeri/ L. monocytogenes*	+	**PA**	2,909	+	H+/H-	+	+	**PA**	6	b
2013	1558	Lingette sol local déstockage bacs P2	Wipe	st	st	st	st	/	-	0,128	-	st	st			/	-	**NA**							6	b
2013	1559	Lingette sol frigo N°3	Wipe	st	+	-	+	*L.welshimeri*	+	2,959	+	H-	+	+	+	*L.welshimeri*	+	**PA**	2,942	+	H-	+	+	**PA**	6	b

♦ Analyses performed according to the COFRAC accreditation

ENVIRONMENTAL SAMPLES																											
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1/A1♦						Alternative method: Solus *Listeria* ELISA method															Cate-gory	Ty-pe
				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser 22 h at 30°C / RELM 22 h at 30°C									Half Fraser 22h at 30°C / RELM 22h at 30°C + 72h at 5°C +- 3°C							
				OAA	Palcam	OAA	Palcam			D.O.	Result	Confirmatory tests					Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment		
												OAA	Palcam	Gram	Catalase	Identification					OAA	Palcam				
2013	1560	Lingette entrée frigo Geba N°1 et 2	Wipe	H-	+	H-	+	*L.welshimeri*	+	2,946	+	H-	+	+	+	*L.welshimeri*	+	**PA**	3,002	+	H-	+	+	**PA**	6	b
2013	1564	Lingette sous ligne co-produits	Wipe	H+	+	H+	+	*L.monocytogenes*	+	2,95	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,969	+	H+	+	+	**PA**	6	b
2013	1650	Chiffonnette transpalette	Wipe	H+/H-	+	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,975	+	H-	+	+	+	*L.innocua*	+	**PA**	2,856	+	H-	+	+	**PA**	6	b
2013	1651	Chiffonnette bac 600l	Wipe	H-	+	H-	+	*L.welshimeri*	+	2,966	+	H-	+	+	+	*L.welshimeri*	+	**PA**	2,877	+	H-	+	+	**PA**	6	b
2013	1655	Chiffonnette tapis bande L3 découpe 2	Wipe	H-	+	H-	+	*L.welshimeri*	+	2,891	+	H-	+	+	+	*L.welshimeri*	+	**PA**	2,934	+	H-	+	+	**PA**	6	b
2013	1656	Chiffonnette transpalette découpe 2	Wipe	H+/H-	+	H+/H-	+	*L.welshimeri/ L.monocytogenes*	+	2,91	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,943	+	H+/H-	+	+	**PA**	6	b
2013	1657	Chiffonnette tapis intralox jambon	Wipe	H-	+	H-	+	*L.innocua*	+	3,034	+	H-	+	+	+	*L.innocua*	+	**PA**	2,895	+	H-	+	+	**PA**	6	b
2013	2287	Chiffonnette tapis	Wipe (Poultry industry)	H-	-	H-	+	*L.welshimeri*	+	2,112	+	H-	+	+	+	*L.welshimeri*	+	**PA**	2,08	+	H-	-	+	**PA**	6	b
2013	2288	Chiffonnette plaque inox	Wipe (Poultry industry)	H-	+	H-	+	*L.innocua/ L.welshimeri*	+	2,427	+	H-	+	+	+	*L.innocua*	+	**PA**	2,151	+	H-	+	+	**PA**	6	b
2013	2289	Chiffonnette plaque inox	Wipe (Poultry industry)	H+	+	H+/H-	-	*L.innocua/ L.monocytogenes*	+	0,92	+	H-	+	+	+	*L.innocua*	+	**PA**	0,726	+	H-	-	+	**PA**	6	b
2013	2290	Chiffonnette hélice	Wipe (Poultry industry)	st	st	st	st	/	-	0,031	-	st	st			/	-	**NA**							6	b
2013	2291	Chiffonnette goulotte éviscération	Wipe (Poultry industry)	H-	-	H-	-	*L.innocua*	+	0,373	+	H-	+	+	+	*L.innocua*	+	**PA**	0,353	+	H-	-	+	**PA**	6	b
2013	2292	Chiffonnette goulotte sortie plumeuse	Wipe (Poultry industry)	-	-	st	-	/	-	0,028	-	st	-			/	-	**NA**							6	b
2013	2293	Chiffonnette table récupération poulet	Wipe (Poultry industry)	H-	+(2)	H-	+	*L.innocua*	+	2,284	+	H-	+	+	+	*L.innocua*	+	**PA**	2,221	+	H-	+	+	**PA**	6	b
2013	2294	Chiffonnette trémie récupération pattes	Wipe (Poultry industry)	-	-	-	-	/	-	0,036	-	-	-			/	-	**NA**							6	b
2013	2295	Chiffonnette plaque	Wipe (Poultry industry)	-	-	-	-	/	-	0,044	-	-	-			/	-	**NA**							6	b
2013	2296	Chiffonnette tapis blanc	Wipe (Poultry industry)	H+/H-	+	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,54	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,477	+	H+/H-	+	+	**PA**	6	b
2013	2442	Chiffonnette grille découpe	Wipe	st	st	st	st	/	-	0,038	-	st	st			/	-	**NA**							6	b
2013	2443	Chiffonnette table	Wipe	st	st	st	st	/	-	0,022	-	st	-			/	-	**NA**							6	b
2013	2444	Chiffonnette évier	Wipe	st	st	st	st	/	-	0,034	-	st	st			/	-	**NA**							6	b
2013	1457	Chiffonnette machine à cartons(poussières)	Wipe (dusts)	st	-	st	-	/	-	0,188	-	st	-			/	-	**NA**							6	c
2013	1458	Chiffonnette machine à cartons-découpe 1(poussières)	Wipe (dusts)	st	st	-	st	/	-	0,228	+	-	-			/	-	**PPNA**	0,068	-	-	-	-	**NA**	6	c
2013	1460	Chiffonnette bouche d'égout frigo pièce découpe	Wipe(fridge sewer)	H-	+	H-	+	*Lwelshimeri*	+	2,968	+	H-	+	+	+	*L.welshimeri*	+	**PA**	2,942	+	H-	+	+	**PA**	6	c
2013	1561	Lingette sol maturation salage	Wipe (floor)	st	st	st	-	/	-	0,076	-	st	st			/	-	**NA**							6	c
2013	1562	Lingette caniveau frigo refroidissemnt	Wipe (gutter)	H+	+	H+	+	*L.monocytogenes*	+	2,95	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,969	+	H+	+	+	**PA**	6	c
2013	1563	Lingette fente au sol filetage	Wipe (floor)	st	st	st	st	/	-	0,111	-	st	st			/	-	**NA**							6	c

ENVIRONMENTAL SAMPLES																											
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1/A1♦						Alternative method: Solus *Listeria* ELISA method															Cate-gory	Ty-pe
				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser 22 h at 30°C / RELM 22 h at 30°C									Half Fraser 22h at 30°C / RELM 22h at 30°C + 72h at 5°C +- 3°C							
				OAA	Palcam	OAA	Palcam			D.O.	Result	Confirmatory tests					Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment		
												OAA	Palcam	Gram	Catalase	Identification					OAA	Palcam				
2013	1565	Lingette sol dépalettisation(poussières)	Wipe (floor-dusts)	H+/H-	+	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,909	+	H+	+	+	+	*L.monocytogenes*	+	**PA**	2,917	+	H+/H-	+	+	**PA**	6	c
2013	1646	Poussières bouche d'égout machine à cartons	Dusts (sewer)	H+/H-	+	H+/H-	+	*L.innocua/ L.monocytogenes*	+	2,998	+	H+/H-	+	+	+	*L.welshimeri/ L. monocytogenes*	+	**PA**	2,96	+	H+/H-	+	+	**PA**	6	c
2013	1647	Poussières cartons local cartons	Dusts(cardboard)	H-(2)	-	H-	+	*L.welshimeri*	+	2,808	+	H-	+	+	+	*L.welshimeri*	+	**PA**	2,951	+	H-	+	+	**PA**	6	c
2013	1648	Chiffonnette bouche d'égout frigo pièce découpe	wipe(fridge sewer)	H-	-	H-	+	*L.welshimeri*	+	2,817	+	H-	+	+	+	*L.welshimeri*	+	**PA**	2,968	+	H-	+	+	**PA**	6	c
2013	1649	Chiffonnette bouche d'égout frigo 208	Wipe(fridge sewer)	H-	+(1)	H-	+	*L.welshimeri*	+	3,018	+	H-	+	+	+	*L.welshimeri*	+	**PA**	2,947	+	H-	+	+	**PA**	6	c
2013	1652	Chiffonnette sol local stockage barquettes	Wipe(floor)	st	-	st	-	/	-	0,078	-	st	-			/	-	**NA**							6	c
2013	1653	Chiffonnette bouche d'égout frigo 211	Wipe(fridge sewer)	H-	-	H+/H-	+	*L.welshimeri/ L.monocytogenes*	+	2,952	+	H+/H-	+	+	+	*L.innocua/ L.monocytogenes*	+	**PA**	2,866	+	H+/H-	+	+	**PA**	6	c
2013	1654	Chiffonnette bouche d'égout atelier brochettes	Wipe(sewer)	st	st	st	st	/	-	0,084	-	st	st			/	-	**NA**							6	c
2013	1766	Chiffonnette poussières local sous escalier	Dusts	H-	+	H-	+	*L.welshimeri*	+	2,943	+	H-	+	+	+	*L.welshimeri*	+	**PA**	2,973	+	H-	+	+	**PA**	6	c
2013	1767	Chiifonnette poussières mur conditionnement distributeur	Dusts	st	st	st	st	/	-	0,058	-	st	st			/	-	**NA**							6	c
2013	1768	Chiffonnette poussières bloc électrique local tablier	Dusts	st	st	st	st	/	-	0,074	-	st	st			/	-	**NA**							6	c
2013	1769	Chiffonnette poussières bloc électrique maturation salage	Dusts	st	st	st	st	/	-	0,083	-	st	st			/	-	**NA**							6	c
2013	1770	Chiffonnette bloc électrique réception matière première	Dusts	st	st	st	st	/	-	0,056	-	st	st			/	-	**NA**							6	c
2013	2302	Poussières 1 structure inox	Dusts(poultry industry)	-	-	-	-	/	-	0,203	+	-	-			/	-	**PPNA**	0,126	-	-	-	-	**NA**	6	c
2013	2303	Poussières 2 rebords tapsi	Dusts(poultry industry)	-	-	-	-	/	-	0,071	-	-	-			/	-	**NA**							6	c
2013	2440	Poussières (laiterie)	Dusts(Dairy industry)	-	-	-	-	/	-	0,047	-	-	-			/	-	**NA**							6	c
2013	2441	Poussières filtres à lait	Dusts (Dairy industry)	st	-	-	-	/	-	0,049	-	-	-			/	-	**NA**							6	c

Appendix 5 – Relative detection levels: raw data

Matrix : Deli-salad (2017)

Strain : *Listeria monocytogenes* Ad1494 Aerobic mesophilic flora: 5,2.10^2 CFU/

N° sample	Level	Inoculation level (cfu/sample)	Reference method : ISO 11290-1/A1 ♦						Alternative method : Solus *Listeria* ELISA method				
									22h at 30°C Half Fraser / 22h at 30°C RELM				
			Half Fraser		Fraser		Final Result	Number positive samples/Total	Solus *Listeria*		Confirmation	Final result	Number positive samples/Total
			O&A	Palcam	O&A	Palcam			Optical density	Result			
3552	0	/	st	st	st	st	-	0/5	0,028	-	-	-	0/5
3553			st	-	-	-	-		0,062	-	-	-	
3554			st	st	st	-	-		0,029	-	-	-	
3555			st	-	-	-	-		0,035	-	-	-	
3556			st	st	-	-	-		0,040	-	-	-	
3557	Low	1,5	H+	+	H+	+	+	13/20	2,639	+	+	+	13/20
3558			H+	+	H+	+	+		2,604	+	+	+	
3559			st	st	st	st	-		0,056	-	-	-	
3560			st	st	-	-	-		0,035	-	-	-	
3561			H+	+	H+	+	+		2,486	+	+	+	
3562			H+	+	H+	+	+		2,587	+	+	+	
3563			st	st	st	st	-		0,069	-	-	-	
3564			st	st	st	st	-		0,051	-	-	-	
3565			H+	+	H+	+	+		2,674	+	+	+	
3566			H+	+	H+	+	+		2,699	+	+	+	
3567			st	st	-	-	-		0,087	-	-	-	
3568			H+	+	H+	+	+		2,699	+	+	+	
3569			st	st	st	st	-		0,055	-	-	-	
3570			H+	+	H+	-	+		2,669	+	+	+	
3571			st	st	st	st	-		0,051	-	-	-	
3572			H+	+	H+	-	+		2,637	+	+	+	
3573			H+	+	H+	-	+		2,838	+	+	+	
3574			H+	+	H+	-	+		2,752	+	+	+	
3575			H+	+	H+	-	+		2,749	+	+	+	
3576			H+	+	H+	-	+		2,739	+	+	+	
3577	High	4,2	H+	+	H+	-	+	5/5	2,721	+	+	+	5/5
3578			H+	+	H+	-	+		2,711	+	+	+	
3579			H+	+	H+	-	+		2,742	+	+	+	
3580			H+	+	H+	-	+		2,729	+	+	+	
3581			H+	+	H+	-	+		2,669	+	+	+	

♦ Analysis performed according to the COFRAC accreditation

Rillettes (2013)

Listeria monocytogenes Ad669 — Aerobic mesophilic flora: 2,0.10^2 cfu/g

N°Sample	Level	Inoculation (cfu/25g)	NF EN ISO 11290-1 ♦						SOLUS Listeria ELISA method					
			Fraser 1/2		Fraser		Result	Positive/total	Half Fraser 22H at 30°c / RELM 22H at 30°c					Positive/total
			O&A	PALCAM	O&A	PALCAM			D.O.	Result	Confirmatory tests O&A	Confirmatory tests PALCAM	Final result	
1252	0	/	st	st	st	st	-	0/6	0.058	-	st	st	-	0/6
1253			st	st	st	st	-		0.055	-	st	st	-	
1254			st	-	st	st	-		0.113	-	st	st	-	
1255			st	st	st	st	-		0.118	-	st	-	-	
1256			st	st	st	st	-		0.077	-	st	st	-	
1257			st	st	st	st	-		0.076	-	st	st	-	
1701	1	0,1	st	st	st	st	-	0/6	0.057	-	st	st	-	0/6
1702			st	st	st	st	-		0.057	-	st	st	-	
1703			st	st	st	st	-		0.055	-	st	st	-	
1704			st	st	st	st	-		0.066	-	st	st	-	
1705			st	st	st	st	-		0.083	-	st	st	-	
1706			st	st	st	st	-		0.089	-	st	st	-	
1812	2	0,5	H+	+	H+	+	+	4/6	2.502	+	H+	+	+	4/6
1813			H+	+	H+	+	+		2.526	+	H+	+	+	
1814			st	st	st	st	-		0.04	-	st	st	-	
1815			H+	+	H+	+	+		2.435	+	H+	+	+	
1816			H+	+	H+	+	+		2.456	+	H+	+	+	
1817			st	st	st	st	-		0.036	-	st	st	-	
1258	3	0,9	st	st	st	st	-	3/6	2.446	-	st	st	-	3/6
1259			st	st	st	st	-		0.067	-	st	-	-	
1260			H+	+	/	/	+		3.09	+	H+	+	+	
1261			H+	+	/	/	+		3.027	+	H+	+	+	
1262			st	st	st	st	-		0.096	-	s	st	-	
1263			H+	+	/	/	+		2.987	+	H+	+	+	
1264	4	1,8	H+	+	/	/	+	6/6	2.977	+	H+	+	+	6/6
1265			H+	+	/	/	+		2.987	+	H+	+	+	
1266			H+	+	/	/	+		2.937	+	H+	+	+	
1267			H+	+	/	/	+		3.084	+	H+	+	+	
1268			H+	+	/	/	+		3.076	+	H+	+	+	
1269			H+	+	/	/	+		3.043	+	H+	+	+	
1270	5	3,5	H+	+	/	/	+	6/6	3.017	+	H+	+	+	6/6
1271			H+	+	/	/	+		3.027	+	H+	+	+	
1272			H+	+	/	/	+		2.968	+	H+	+	+	
1273			H+	+	/	/	+		2.992	+	H+	+	+	
1274			H+	+	/	/	+		2.963	+	H+	+	+	
1275			H+	+	/	/	+		2.996	+	H+	+	+	
1276	6	8,9	H+	+	/	/	+	6/6	2.959	+	H+	+	+	6/6
1277			H+	+	/	/	+		2.959	+	H+	+	+	
1278			H+	+	/	/	+		2.937	+	H+	+	+	
1279			H+	+	/	/	+		2.884	+	H+	+	+	
1280			H+	+	/	/	+		2.903	+	H+	+	+	
1281			H+	+	/	/	+		2.916	+	H+	+	+	

♦ Analysis performed according to the COFRAC accreditation

Raw milk (2013)

Listeria ivanovii Ad991

Aerobic mesophilic flora: 3,0.10^6 cfu/g

N°Sample	Level	Inoculation (cfu/25g)	NF EN ISO 11290-1 ♦						SOLUS Listeria ELISA method					
			Fraser 1/2		Fraser		Result	Positive/total	Half Fraser 22H at 30°c / RELM 22H at 30°c					Positive/total
			O&A	PALCAM	O&A	PALCAM			D.O.	Result	Confirmatory tests O&A	Confirmatory tests PALCAM	Final result	
2538	0	/	st	-	-	-	-	0/6	0.037	-	st	st	-	0/6
2539			st	-	st	-	-		0.031	-	st	st	-	
2540			-	-	-	-	-		0.046	-	st	st	-	
2541			-	-	st	-	-		0.029	-	st	st	-	
2542			st	-	-	-	-		0.037	-	st	st	-	
2543			st	-	-	-	-		0.025	-	st	st	-	
2732	1	0,6	4H+	+	/	/	+	3/6	2.037	+	H+	+	+	3/6
2733			H+	4+	/	/	+		1.123	+	H+	+	+	
2734			st	-	-	-	-		0.054	-	st	-	-	
2735			4H+	+	/	/	+		1.551	+	H+	+	+	
2736			st	-	-	-	-		0.052	-	-	-	-	
2737			st	st	-	-	-		0.051	-	st	st	-	
2738	2	1,2	H+	+	/	/	+	5/6	2.804	+	H+	+	+	5/6
2739			1H+	1+	/	/	+		0.325	+	H+	+	+	
2740			H+	+	/	/	+		2.743	+	H+	+	+	
2741			st	-	-	-	-		0.062	-	st	st	-	
2742			H+	+	/	/	+		2.835	+	H+	+	+	
2743			H+	+	/	/	+		2.646	+	H+	+	+	
2744	3	2,5	H+	+	/	/	+	6/6	2.841	+	H+	+	+	6/6
2745			H+	+	/	/	+		2.908	+	H+	+	+	
2746			H+	+	/	/	+		1.916	+	H+	+	+	
2747			H+	+	/	/	+		2.844	+	H+	+	+	
2748			H+	+	/	/	+		1.975	+	H+	+	+	
2749			H+	+	/	/	+		2.841	+	H+	+	+	
2750	4	6,2	H+	+	/	/	+	6/6	2.854	+	H+	+	+	6/6
2751			H+	+	/	/	+		2.816	+	H+	+	+	
2752			H+	+	/	/	+		2.838	+	H+	+	+	
2753			H+	+	/	/	+		2.828	+	H+	+	+	
2754			H+	+	/	/	+		2.868	+	H+	+	+	
2755			H+	+	/	/	+		2.841	+	H+	+	+	

♦ Analysis performed according to the COFRAC accreditation

Smoked salmon (2013)

Listeria innocua 1 — Aerobic mesophilic flora:2,0.10^6 cfu/g

N°Sample	Level	Inoculation (cfu/25g)	NF EN ISO 11290-1 ♦						SOLUS Listeria ELISA method					
			Fraser 1/2		Fraser		Result	Positive/total	Half Fraser 22H at 30°c / RELM 22H at 30°c					Positive/total
			O&A	PALCAM	O&A	PALCAM			D.O.	Result	Confirmatory tests O&A	Confirmatory tests PALCAM	Final result	
1695	0	/	-	-	-	-	-	0/6	0.107	-	st	-	-	0/6
1696			-	-	-	-	-		0.127	-	st	-	-	
1697			-	-	-	-	-		0.107	-	st	-	-	
1698			-	-	-	-	-		0.113	-	st	-	-	
1699			-	-	-	-	-		0.117	-	st	-	-	
1700			-	-	-	-	-		0.101	-	st	-	-	
2666	1	0,2	st	st	st	st	-	1/6	0.053	-	st	st	-	1/6
2667			st	st	st	st	-		0.056	-	st	-	-	
2668			st	st	st	st	-		0.072	-	st	st	-	
2669			st	st	st	st	-		0.066	-	st	st	-	
2670			H-	+	H-	+	+		2.224	+	H-	+	+	
2671			st	st	st	st	-		0.065	-	st	st	-	
2672	2	0,5	H-	+	H-	+	+	2/6	2.373	+	H-	+	+	2/6
2673			st	st	st	st	-		0.058	-	st	-	-	
2674			H-	+	H-	+	+		2.362	+	H-	+	+	
2675			st	st	st	st	-		0.067	-	st	st	-	
2676			st	st	st	st	-		0.053	-	st	st	-	
2677			st	st	st	st	-		0.048	-	st	-	-	
2678	3	0,9	H-	+	H-	+	+	3/6	2.362	+	H-	+	+	3/6
2679			st	st	st	st	-		0.056	-	st	st	-	
2680			st	st	st	st	-		0.056	-	st	st	-	
2681			H-	+	H-	+	+		2.406	+	H-	+	+	
2682			H-	+	H-	+	+		2.283	+	H-	+	+	
2683			st	st	st	st	-		0.064	-	st	st	-	
2684	4	2,3	H-	+	H-	+	+	6/6	2.302	+	H-	+	+	6/6
2685			H-	+	H-	+	+		2.404	+	H-	+	+	
2686			H-	+	H-	+	+		2.169	+	H-	+	+	
2687			H-	+	H-	+	+		2.514	+	H-	+	+	
2688			H-	+	H-	+	+		2.298	+	H-	+	+	
2689			H-	+	H-	+	+		2.415	+	H-	+	+	

♦ Analysis performed according to the COFRAC accreditation

Zucchini (2013)

Listeria seeligeri Ad1293 — Aerobic mesophilic flora: 1,2.10^4 cfu/g

N°Sample	Level	Inoculation (cfu/25g)	NF EN ISO 11290-1 ♦						SOLUS Listeria ELISA method					
			Fraser 1/2		Fraser		Result	Positive/total	Half Fraser 22H at 30°c / RELM 22H at 30°c					Positive/total
			O&A	PALCAM	O&A	PALCAM			D.O.	Result	Confirmatory tests O&A	Confirmatory tests PALCAM	Final result	
1891	0	/	-	-	-	-	-	0/6	0.069	-	-	-	-	0/6
1892			-	-	-	-	-		0.071	-	-	-	-	
1893			-	-	-	-	-		0.084	-	-	-	-	
1894			-	-	-	-	-		0.085	-	-	-	-	
1895			-	-	-	-	-		0.09	-	-	-	-	
1896			-	-	-	-	-		0.057	-	-	-	-	
2453	1	0,2	-	-	-	-	-	2/6	0.023	-	-	-	-	2/6
2454			H-	+	H-	+	+		2.086	+	H-	+	+	
2455			-	-	-	-	-		0.058	-	-	-	-	
2456			-	-	-	-	-		0.027	-	-	-	-	
2457			H-	+	H-	+	+		2.14	+	H-	+	+	
2458			-	-	-	-	-		0.03	-	-	-	-	
2405	2	0,6	H-	+	/	/	+	5/6	2.313	+	H-	+	+	5/6
2406			-	-	-	-	-		0.075	-	-	-	-	
2407			H-	+	/	/	+		2.343	+	H-	+	+	
2408			H-	+	/	/	+		2.318	+	H-	+	+	
2409			H-	+	/	/	+		2.368	+	H-	+	+	
2410			H-	+	/	/	+		2.376	+	H-	+	+	
2411	3	1,2	H-	+	/	/	+	6/6	2.252	+	H-	+	+	6/6
2412			H-	+	/	/	+		2.303	+	H-	+	+	
2413			H-	+	/	/	+		2.298	+	H-	+	+	
2414			H-	+	/	/	+		2.263	+	H-	+	+	
2415			H-	+	/	/	+		2.274	+	H-	+	+	
2416			H-	+	/	/	+		2.252	+	H-	+	+	
2417	4	2,3	H-	+	/	/	+	6/6	2.264	+	H-	+	+	6/6
2418			H-	+	/	/	+		2.319	+	H-	+	+	
2419			H-	+	/	/	+		2.307	+	H-	+	+	
2420			H-	+	/	/	+		2.325	+	H-	+	+	
2421			H-	+	/	/	+		2.332	+	H-	+	+	
2422			H-	+	/	/	+		2.409	+	H-	+	+	
2423	5	5,8	H-	+	/	/	+	6/6	2.376	+	H-	+	+	6/6
2424			H-	+	/	/	+		2.392	+	H-	+	+	
2425			H-	+	/	/	+		2.426	+	H-	+	+	
2426			H-	+	/	/	+		2.514	+	H-	+	+	
2427			H-	+	/	/	+		2.434	+	H-	+	+	
2428			H-	+	/	/	+		2.407	+	H-	+	+	

♦ Analysis performed according to the COFRAC accreditation

Appendix 6 – Inclusivity and exclusivity: raw data

INCLUSIVITY STRAINS												
Strains				Molecular Serovar	Origin	Inoculation level (cfu/225ml Half Fraser)	Alternative method: Solus *Listeria* ELISA				Reference method♦ (ISO 11290-1)	
							D.O.	Result	O&A	Palcam	O&A	Palcam
1.	*Listeria*	*grayi*	Ad 1198		Smoked salmon	5	0.029	-	st	st	st	st
						7 (+milk)	0.056	-	st	st	st	st
						87	0.022	-	st	st	st	st
						87 (+milk)	0.015	-	st	st	st	st
						496	0.018	-	st	st	1 colony	st
						496 (+milk)	0.017	-	st	st	st	st
						BHI	2.860	+	/	/	/	/
2.	*Listeria*	*grayi*	Ad 1443		Pork	5	0.034	-	st	st	st	st
						28 (+milk)	0.025	-	st	st	st	st
						300	0.019	-	st	st	st	st
						300 (+milk)	0.021	-	st	st	3 colonies	st
						1680	0.059	-	st	st	st	st
						1680 (+milk)	0.018	-	st	st	4 colonies	st
						BHI	2.566	+	/	/	/	/
3.	*Listeria*	*innocua*	1		Smoked salmon	28	2.974	+	H-	+	/	/

♦ Analyses performed according to the COFRAC accreditation

INCLUSIVITY STRAINS												
Strains				Molecular Serovar	Origin	Inoculation level (cfu/225ml Half Fraser)	Alternative method: Solus *Listeria* ELISA				Reference method♦ (ISO 11290-1)	
							D.O.	Result	O&A	Palcam	O&A	Palcam
4.	*Listeria*	*innocua*	Ad 658		Gorgonzola	43	2.853	+	H-	+	/	/
5.	*Listeria*	*innocua*	Ad 655		Brine	18	2.818	+	H-	+	/	/
6.	*Listeria*	*innocua*	Ad 660		Bread crumbs	15	2.916	+	H-	+	/	/
7.	*Listeria*	*innocua*	Ad 663		Environment (dairy industry)	17	2.952	+	H-	+	/	/
8.	*Listeria*	*innocua*	Ad 671		Smoked salmon	39	2.966	+	H-	+	/	/
9.	*Listeria*	*innocua*	Ad 661		Soft cheese (Pont L'Evèque)	44	2.904	+	H-	+	/	/
10.	*Listeria*	*innocua*	Ad 659		Environment (dairy industry)	53	2.921	+	H-	+	/	/
11.	*Listeria*	*ivanovii*	Ad 466		Raw veal meat	44	2.888	+	H+	+	/	/
12.	*Listeria*	*ivanovii*	Ad 662		Environment (dairy industry)	39	2.857	+	H+	+	/	/
13.	*Listeria*	*ivanovii*	BR11		Environment (truit production unit)	26	2.71	+	H+	+	/	/
14.	*Listeria*	*ivanovii londoniensis*	CIP103466		/	30	3.027	+	H+	+	/	/
15.	*Listeria*	*ivanovii*	Ad 1289		Raw milk cheese	26	2.98	+	H+	+	/	/
16.	*Listeria*	*ivanovii*	Ad 1290		Milk powder	55	2.98	+	H+	+	/	/
17.	*Listeria*	*ivanovii*	Ad 1291		Poultry	39	2.943	+	H+	+	/	/
18.	*Listeria*	*ivanovii*	Ad 1288		Sheep milk	50	2.966	+	H+	+	/	/
19.	*Listeria*	*seeligeri*	Ad 649		Cheese	35	2.934	+	H-	+	/	/
20.	*Listeria*	*seeligeri*	Ad 651		Trout	69	2.966	+	H-	+	/	/

INCLUSIVITY STRAINS												
Strains				Molecular Serovar	Origin	Inoculation level (cfu/225ml Half Fraser)	Alternative method: Solus *Listeria* ELISA				Reference method♦ (ISO 11290-1)	
							D.O.	Result	O&A	Palcam	O&A	Palcam
21.	*Listeria*	*seeligeri*	Ad 652		Environment (dairy industry)	49	2.938	+	H-	+	/	/
22.	*Listeria*	*seeligeri*	Ad 674		Soft cheese (Munster)	11	3.068	+	H-	+	/	/
23.	*Listeria*	*seeligeri*	BR1		Trout	21	3.074	+	H-	+	/	/
24.	*Listeria*	*seeligeri*	BR18		Environment (fish)	28	2.996	+	H-	+	/	/
25.	*Listeria*	*seeligeri*	CIP100100		/	7	0.213	+	H-	+	/	/
						124	0.234	+	H-	+	st	+
						876	0.251	+	H-	+	st	+
26.	*Listeria*	*welshimeri*	Ad1276		Environment (slaughterhouse)	14	3.068	+	H-	+	/	/
27.	*Listeria*	*welshimeri*	Ad1235		Beef meat	17	2.98	+	H-	+	/	/
28.	*Listeria*	*welshimeri*	191424			3	2.985	+	H-	+	/	/
29.	*Listeria*	*welshimeri*	Ad 1175		Ready-to-eat food	3	2.925	+	H-	+	/	/
30.	*Listeria*	*welshimeri*	Ad 650		Poultry	39	2.99	+	H-	+	/	/
31.	*Listeria*	*monocytogenes*	1011/1410	II a	Frozen broccoli	16	3.027	+	H+	+	/	/
32.	*Listeria*	*monocytogenes*	153	VI b	Soft cheese (Munster)	9	2.98	+	H+	+	/	/
33.	*Listeria*	*monocytogenes*	1973/2400	VI b	Egg and ham pastry (Quiche Lorraine)	10	2.916	+	H+	+	/	/
34.	*Listeria*	*monocytogenes*	38/181	II a	Toulouse sausages	6	2.966	+	H+	+	/	/

INCLUSIVITY STRAINS												
Strains				Molecular Serovar	Origin	Inoculation level (cfu/225ml Half Fraser)	Alternative method: Solus *Listeria* ELISA				Reference method♦ (ISO 11290-1)	
							D.O.	Result	O&A	Palcam	O&A	Palcam
35.	*Listeria*	*monocytogenes*	7111/7516	IV b	Pâté (Rillettes)	16	3.064	+	H+	+	/	/
36.	*Listeria*	*monocytogenes*	913/1 048	IV b	Black pudding	2	2.916	+	H+	+	/	/
37.	*Listeria*	*monocytogenes*	A00C036	II a	Poultry (guinea)	5	2.896	+	H+	+	/	/
38.	*Listeria*	*monocytogenes*	A00C041	L a	Sausage	20	3.099	+	H+	+	/	/
39.	*Listeria*	*monocytogenes*	A00C044	II b	Poultry (Duck)	18	3.022	+	H+	+	/	/
40.	*Listeria*	*monocytogenes*	A00L097	II a	Milk	30	3.001	+	H+	+	/	/
41.	*Listeria*	*monocytogenes*	A00M009	II a	Smoked salmon	14	2.985	+	H+	+	/	/
42.	*Listeria*	*monocytogenes*	Ad253	II b	Semi-hard cheese	3	2.346	+	H+	+	/	/
43.	*Listeria*	*monocytogenes*	Ad266	Ii a	Poultry	1	2.985	+	H+	+	/	/
44.	*Listeria*	*monocytogenes*	Ad270	IV b	Fermented sausage	5	2.98	+	H+	+	/	/
45.	*Listeria*	*monocytogenes*	Ad273	II b	Cured delicatessen	15	2.943	+	H+	+	/	/
46.	*Listeria*	*monocytogenes*	Ad274	II a	Ready-to-eat food (Asiatic meal)	14	3.022	+	H+	+	/	/
47.	*Listeria*	*monocytogenes*	Ad534	II b	Fruits	24	3.011	+	H+	+	/	/
48.	*Listeria*	*monocytogenes*	Ad548	II a	Environment (Seafood)	13	2.99	+	H+	+	/	/
49.	*Listeria*	*monocytogenes*	Ad623	II b	Bread crumbs	31	3.006	+	H+	+	/	/
50.	*Listeria*	*monocytogenes*	Ad665	II a	Raw milk	37	3.016	+	H+	+	/	/

NEGATIVE STRAINS							
Strains				Origin	Inoculation level (cfu/ml EPT)	Alternative method: Solus *Listeria* ELISA	
						D.O.	Result
1	*Bacillus*	*cereus*	Ad 465	Salmon Terrine	4.8 10^4	0.156	-
2	*Bacillus*	*coagulans*	Ad 731	Dairy product	2.7 10^5	0.028	-
3	*Bacillus*	*licheniformis*	Ad 978	Dairy product	2.0 10^4	0.059	-
4	*Bacillus*	*mycoïdes*	Ad 762	Milk	1.5 10^4	0.031	-
5	*Bacillus*	*pseudomycoides*	Ad 765	Raw vegetable	1.2 10^4	0.033	-
6	*Bacillus*	*pumilus*	Ad 284	Ready-to-eat	1.9 10^5	0.043	-
7	*Bacillus*	*weihenstephanensis*	Ad 726	Egg product	2.4 10^4	0.151	-
8	*Brochothrix*	*thermosphacta*	EN 15129	/	4.0 10^2	0.055	-
9	*Brochrotrix*	*compessis*	CIP 1029205	Environment	3.6 10^4	0.07	-
10	*Carnobacterium*	*diversgens*	CIP 101029^T	/	5.0 10^6	0.053	-
11	*Carnobacterium*	*piscicola*	Ad 369	Raw milk	2.8 10^6	0.069	-
12	*Corynebacterium*	*spp*	Ad 364	Food	3.0 10^4	0.034	
13	*Enterococcus*	*durans*	Ad 149	Ham	2.8 10^5	0.044	-
14	*Enterococcus*	*faecalis*	89L326	Soft cheese (Vacherin)	1.9 10^5	0.042	-
15	*Lactobacillus*	*brevis*	86L126	Ham	1.3 10^6	0.037	-
16	*Lactobacillus*	*curvatus*	Ad 380	Delicatessen	1.2 10^6	0.031	-
17	*Lactobacillus*	*fermentum*	Ad 482	Food	8.4 10^5	0.045	-
18	*Lactobacillus*	*sakei*	Ad 473	Ham	3.2 10^4	0.06	-
19	*Lactococcus*	*lactis cremoris*	Ad 136	Food (Dairy)	1.8 10^4	0.041	-
20	*Leuconostoc*	*carnosum*	Ad 411	Ham	8.1 10^6	0.049	-

NEGATIVE STRAINS							
Strains				Origin	Inoculation level (cfu/ml EPT)	Alternative method: Solus *Listeria* ELISA	
						D.O.	Result
21	*Leuconostoc*	*citreum*	Ad 396	Ham	7.6 10^6	0.047	-
22	*Micrococcus*	*luteus*	Ad 432	Cocktail	9.2 10^4	0.058	-
23	*Pediococcus*	*pentosaceus*	ATCC 33316	/	1.7 10^6	0.042	-
24	*Staphylococcus*	*aureus*	Ad 165	Smoked delicatessen	5.7 10^5	0.067	-
25	*Staphylococcus*	*aureus*	Ad 910	Food	5.6 10^5	0.064	-
26	*Staphylococcus*	*aureus*	Ad 902	Food	5.5 10^5	0.095	-
27	*Staphylococcus*	*epidermidis*	Ad 931	Fruits	8.8 10^4	0.047	-
28	*Staphylococcus*	*haemoliticus*	Ad 989	Dairy products	3.8 10^5	0.063	-
29	*Streptococcus*	*bovis*	91L518	Dairy products	1.0 104	0.041	-
30	*Streptococcus*	*salivarius sps thermophilus*	Ad441	Dairy products	2.0 10^4	0.041	-

Appendix 7 – Results obtained by the Expert Laboratory

Laboratory : O (ADRIA)

Aerobic mesophilic flora:1,1.10^7/g

Sample N°	Reference method ISO 11290-1♦					Alternative method: Solus *Listeria* ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
O2	-	-	-	-	-	0.018	-	-	-	**NA**
O8	-	-	-	-	-	0.030	-	-	-	**NA**
O10	-	-	-	-	-	0.013	-	-	-	**NA**
O12	-	-	-	-	-	0.032	-	-	-	**NA**
O15	-	-	-	-	-	0.019	-	-	-	**NA**
O16	-	-	-	-	-	0.016	-	-	-	**NA**
O20	-	-	-	-	-	0.019	-	-	-	**NA**
O23	-	-	-	-	-	0.036	-	-	-	**NA**
O6	+	+	+	+	+	2.878	+	+	+	**PA**
O7	+	+	+	+	+	2.941	+	+	+	**PA**
O9	+	+	+	+	+	2.846	+	+	+	**PA**
O11	+	+	+	+	+	2.760	+	+	+	**PA**
O14	+	+	+	+	+	3.041	+	+	+	**PA**
O19	+	+	+	+	+	2.697	+	+	+	**PA**
O21	+	+	+	+	+	2.697	+	+	+	**PA**
O24	+	+	+	+	+	2.807	+	+	+	**PA**
O1	+	+	+	+	+	2.929	+	+	+	**PA**
O3	+	+	+	+	+	2.760	+	+	+	**PA**
O4	+	+	+	+	+	2.622	+	+	+	**PA**
O5	+	+	+	+	+	2.678	+	+	+	**PA**
O13	+	+	+	+	+	2.497	+	+	+	**PA**
O17	+	+	+	+	+	2.874	+	+	+	**PA**
O18	+	+	+	+	+	2.823	+	+	+	**PA**
O22	+	+	+	+	+	2.959	+	+	+	**PA**

♦ Analysis performed according to the COFRAC accreditation

Appendix 8 – Results obtained by the each Collaborator

Laboratory : A

Aerobic mesophilic flora:2,8.10^7 CFU/g

Sample N°	Reference method ISO 11290-1					Alternative method:Solus Listeria ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
A2	-	-	-	-	-	0.023	-	-	-	**NA**
A8	-	-	-	-	-	0.022	-	-	-	**NA**
A10	-	-	-	-	-	0.023	-	-	-	**NA**
A12	-	-	-	-	-	0.023	-	-	-	**NA**
A15	-	-	-	-	-	0.024	-	-	-	**NA**
A16	-	-	-	-	-	0.023	-	-	-	**NA**
A20	-	-	-	-	-	0.021	-	-	-	**NA**
A23	-	-	-	-	-	0.033	-	-	-	**NA**
A6	+	+	+	+	+	5,000	+	+	+	**PA**
A7	+	+	+	+	+	5,000	+	+	+	**PA**
A9	+	+	+	+	+	5,000	+	+	+	**PA**
A11	+	+	+	+	+	5,000	+	+	+	**PA**
A14	+	+	+	+	+	5,000	+	+	+	**PA**
A19	+	+	+	+	+	5,000	+	+	+	**PA**
A21	+	+	+	+	+	5,000	+	+	+	**PA**
A24	+	+	+	+	+	5,000	+	+	+	**PA**
A1	+	+	+	+	+	2.959	+	+	+	**PA**
A3	+	+	+	+	+	2.901	+	+	+	**PA**
A4	+	+	+	+	+	2.929	+	+	+	**PA**
A5	+	+	+	+	+	5,000	+	+	+	**PA**
A13	+	+	+	+	+	5,000	+	+	+	**PA**
A17	+	+	+	+	+	5,000	+	+	+	**PA**
A18	+	+	+	+	+	5,000	+	+	+	**PA**
A22	+	+	+	+	+	5,000	+	+	+	**PA**

Laboratory : B

Aerobic mesophilic flora:2,8.10^7 CFU/g

Sample N°	Reference method ISO 11290-1					Alternative method:Solus Listeria ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
B2	-	-	-	-	-	0.027	-	-	-	**NA**
B8	-	-	-	-	-	0.036	-	-	-	**NA**
B10	-	-	-	-	-	0.024	-	-	-	**NA**
B12	-	-	-	-	-	0.041	-	-	-	**NA**
B15	-	-	-	-	-	0.04	-	-	-	**NA**
B16	-	-	-	-	-	0.032	-	-	-	**NA**
B20	-	-	-	-	-	0.04	-	-	-	**NA**
B23	-	-	-	-	-	0.05	-	-	-	**NA**
B6	+	+	+	+	+	2.618	+	+	+	**PA**
B7	+	+	+	+	+	1.607	+	+	+	**PA**
B9	+	+	+	+	+	2.541	+	+	+	**PA**
B11	+	+	+	+	+	2.407	+	+	+	**PA**
B14	+	+	+	+	+	2.408	+	+	+	**PA**
B19	+	+	+	+	+	2.347	+	+	+	**PA**
B21	+	+	+	+	+	2.408	+	+	+	**PA**
B24	+	+	+	+	+	2.592	+	+	+	**PA**
B1	+	+	+	+	+	2.767	+	+	+	**PA**
B3	+	+	+	+	+	2.754	+	+	+	**PA**
B4	+	+	+	+	+	2.731	+	+	+	**PA**
B5	+	+	+	+	+	2.767	+	+	+	**PA**
B13	+	+	+	+	+	2.713	+	+	+	**PA**
B17	+	+	+	+	+	2.599	+	+	+	**PA**
B18	+	+	+	+	+	2.092	+	+	+	**PA**
B22	+	+	+	+	+	2.694	+	+	+	**PA**

Laboratory C

Aerobic mesophilic flora:1,3.10^7 CFU/g

Sample N°	Reference method ISO 11290-1					Alternative method:Solus Listeria ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
C2	-	-	-	-	-	0.065	-	-	-	**NA**
C8	-	-	-	-	-	0.15	-	-	-	**NA**
C10	-	-	-	-	-	0.035	-	-	-	**NA**
C12	-	-	-	-	-	0.131	-	-	-	**NA**
C15	-	-	-	-	-	0.109	-	-	-	**NA**
C16	-	-	-	-	-	0.031	-	-	-	**NA**
C20	-	-	-	-	-	0.133	-	-	-	**NA**
C23	-	-	-	-	-	0.031	-	-	-	**NA**
C6	+	+	+	+	+	2.779	+	+	+	**PA**
C7	+	+	+	+	+	2.707	+	+	+	**PA**
C9	+	+	+	+	+	2.754	+	+	+	**PA**
C11	+	+	+	+	+	2.752	+	+	+	**PA**
C14	+	+	+	+	+	2.997	+	+	+	**PA**
C19	+	+	+	+	+	2.912	+	+	+	**PA**
C21	+	+	+	+	+	3.006	+	+	+	**PA**
C24	+	+	+	+	+	2.974	+	+	+	**PA**
C1	+	+	+	+	+	2.801	+	+	+	**PA**
C3	+	+	+	+	+	2.814	+	+	+	**PA**
C4	+	+	+	+	+	2.84	+	+	+	**PA**
C5	+	+	+	+	+	2.879	+	+	+	**PA**
C13	+	+	+	+	+	2.809	+	+	+	**PA**
C17	+	+	+	+	+	2.95	+	+	+	**PA**
C18	+	+	+	+	+	2.997	+	+	+	**PA**
C22	+	+	+	+	+	3.035	+	+	+	**PA**

Laboratory D

Aerobic mesophilic flora:1,5.10^7 CFU/g

Sample N°	Reference method ISO 11290-1					Alternative method:Solus Listeria ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
D2	-	-	-	-	-	0.032	-	-	-	**NA**
D8	-	-	-	-	-	0.061	-	-	-	**NA**
D10	-	-	-	-	-	0.085	-	-	-	**NA**
D12	-	-	-	-	-	0.034	-	-	-	**NA**
D15	-	-	-	-	-	0.075	-	-	-	**NA**
D16	-	-	-	-	-	0.05	-	-	-	**NA**
D20	-	-	-	-	-	0.052	-	-	-	**NA**
D23	-	-	-	-	-	0.031	-	-	-	**NA**
D6	+	+	+	+	+	5.000	+	+	+	**PA**
D7	+	+	+	+	+	5.000	+	+	+	**PA**
D9	+	+	+	+	+	5.000	+	+	+	**PA**
D11	+	+	+	+	+	5.000	+	+	+	**PA**
D14	+	+	+	+	+	5.000	+	+	+	**PA**
D19	+	+	+	+	+	5.000	+	+	+	**PA**
D21	+	+	+	+	+	5.000	+	+	+	**PA**
D24	+	+	+	+	+	2.97	+	+	+	**PA**
D1	+	+	+	+	+	5.000	+	+	+	**PA**
D3	+	+	+	+	+	5.000	+	+	+	**PA**
D4	+	+	+	+	+	5.000	+	+	+	**PA**
D5	+	+	+	+	+	5.000	+	+	+	**PA**
D13	+	+	+	+	+	5.000	+	+	+	**PA**
D17	+	+	+	+	+	5.000	+	+	+	**PA**
D18	+	+	+	+	+	2.997	+	+	+	**PA**
D22	+	+	+	+	+	5.000	+	+	+	**PA**

Laboratory E

Aerobic mesophilic flora:2,8.10^6 CFU/g

Sample N°	Reference method ISO 11290-1					Alternative method:Solus Listeria ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
E2	-	-	-	-	-	0.02	-	-	-	**NA**
E8	-	-	-	-	-	0.007	-	-	-	**NA**
E10	-	-	-	-	-	0.014	-	-	-	**NA**
E12	-	-	-	-	-	0.084	-	-	-	**NA**
E15	-	-	-	-	-	0.05	-	-	-	**NA**
E16	-	-	-	-	-	0.019	-	-	-	**NA**
E20	-	-	-	-	-	0.004	-	-	-	**NA**
E23	-	-	-	-	-	0.002	-	-	-	**NA**
E6	+	+	+	+	+	2.513	+	+	+	**PA**
E7	+	+	+	+	+	2.264	+	+	+	**PA**
E9	+	+	+	+	+	2.854	+	+	+	**PA**
E11	+	+	+	+	+	2.627	+	+	+	**PA**
E14	+	+	+	+	+	2.428	+	+	+	**PA**
E19	+	+	+	+	+	2.727	+	+	+	**PA**
E21	+	+	+	+	+	2.806	+	+	+	**PA**
E24	+	+	+	+	+	2.758	+	+	+	**PA**
E1	+	+	+	+	+	2.616	+	+	+	**PA**
E3	+	+	+	+	+	2.752	+	+	+	**PA**
E4	+	+	+	+	+	2.978	+	+	+	**PA**
E5	+	+	+	+	+	2.835	+	+	+	**PA**
E13	+	+	+	+	+	2.952	+	+	+	**PA**
E17	+	+	+	+	+	2.758	+	+	+	**PA**
E18	+	+	+	+	+	2.879	+	+	+	**PA**
E22	+	+	+	+	+	2.4	+	+	+	**PA**

Laboratory F

Aerobic mesophilic flora:2,2.10^7 CFU/g

Sample N°	Reference method ISO 11290-1					Alternative method:Solus Listeria ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
F2	-	-	-	-	-	0.033	-	-	-	**NA**
F8	-	-	-	-	-	0.032	-	-	-	**NA**
F10	-	-	-	-	-	0.05	-	-	-	**NA**
F12	-	-	-	-	-	0.03	-	-	-	**NA**
F15	-	-	-	-	-	0.031	-	-	-	**NA**
F16	-	-	-	-	-	0.037	-	-	-	**NA**
F20	-	-	-	-	-	0.027	-	-	-	**NA**
F23	-	-	-	-	-	0.035	-	-	-	**NA**
F6	+	+	+	+	+	9.999	+	+	+	**PA**
F7	+	+	+	+	+	9.999	+	+	+	**PA**
F9	+	+	+	+	+	9.999	+	+	+	**PA**
F11	+	+	+	+	+	9.999	+	+	+	**PA**
F14	+	+	+	+	+	9.999	+	+	+	**PA**
F19	+	+	+	+	+	9.999	+	+	+	**PA**
F21	+	+	+	+	+	9.999	+	+	+	**PA**
F24	+	+	+	+	+	9.999	+	+	+	**PA**
F1	+	+	+	+	+	9.999	+	+	+	**PA**
F3	+	+	+	+	+	9.999	+	+	+	**PA**
F4	+	+	+	+	+	9.999	+	+	+	**PA**
F5	+	+	+	+	+	9.999	+	+	+	**PA**
F13	+	+	+	+	+	9.999	+	+	+	**PA**
F17	+	+	+	+	+	9.999	+	+	+	**PA**
F18	+	+	+	+	+	9.999	+	+	+	**PA**
F22	+	+	+	+	+	9.999	+	+	+	**PA**

Laboratory G

Aerobic mesophilic flora:7,9.10^6 CFU/g

Sample N°	Reference method ISO 11290-1					Alternative method:Solus Listeria ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
G2	-	-	-	-	-	0.03	-	-	-	**NA**
G8	-	-	-	-	-	0.024	-	-	-	**NA**
G10	-	-	-	-	-	0.031	-	-	-	**NA**
G12	-	-	-	-	-	0.028	-	-	-	**NA**
G15	-	-	-	-	-	0.025	-	-	-	**NA**
G16	-	-	-	-	-	0.027	-	-	-	**NA**
G20	-	-	-	-	-	0.032	-	-	-	**NA**
G23	-	-	-	-	-	0.03	-	-	-	**NA**
G6	+	+	+	+	+	2.498	+	+	+	**PA**
G7	+	+	+	+	+	2.464	+	+	+	**PA**
G9	+	+	+	+	+	2.459	+	+	+	**PA**
G11	+	+	+	+	+	2.478	+	+	+	**PA**
G14	+	+	+	+	+	2.6	+	+	+	**PA**
G19	+	+	+	+	+	2.453	+	+	+	**PA**
G21	+	+	+	+	+	2.626	+	+	+	**PA**
G24	+	+	+	+	+	2.516	+	+	+	**PA**
G1	+	+	+	+	+	2.576	+	+	+	**PA**
G3	+	+	+	+	+	2.576	+	+	+	**PA**
G4	+	+	+	+	+	2.579	+	+	+	**PA**
G5	+	+	+	+	+	2.695	+	+	+	**PA**
G13	+	+	+	+	+	2.606	+	+	+	**PA**
G17	+	+	+	+	+	2.502	+	+	+	**PA**
G18	+	+	+	+	+	2.545	+	+	+	**PA**
G22	+	+	+	+	+	2.531	+	+	+	**PA**

Laboratory H

Aerobic mesophilic flora:1,6.10^7 CFU/g

Sample N°	Reference method ISO 11290-1					Alternative method:Solus Listeria ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
H2	-	-	-	-	-	0.025	-	-	-	**NA**
H8	-	-	-	-	-	0.022	-	-	-	**NA**
H10	-	-	-	-	-	0.024	-	-	-	**NA**
H12	-	-	-	-	-	0.024	-	-	-	**NA**
H15	-	-	-	-	-	0.021	-	-	-	**NA**
H16	-	-	-	-	-	0.019	-	-	-	**NA**
H20	-	-	-	-	-	0.023	-	-	-	**NA**
H23	-	-	-	-	-	0.02	-	-	-	**NA**
H6	+	+	+	+	+	2.778	+	+	+	**PA**
H7	+	+	+	+	+	2.752	+	+	+	**PA**
H9	+	+	+	+	+	2.703	+	+	+	**PA**
H11	+	+	+	+	+	2.735	+	+	+	**PA**
H14	+	+	+	+	+	2.599	+	+	+	**PA**
H19	+	+	+	+	+	2.702	+	+	+	**PA**
H21	+	+	+	+	+	2.817	+	+	+	**PA**
H24	+	+	+	+	+	2.451	+	+	+	**PA**
H1	+	+	+	+	+	2.808	+	+	+	**PA**
H3	+	+	+	+	+	2.798	+	+	+	**PA**
H4	+	+	+	+	+	2.852	+	+	+	**PA**
H5	+	+	+	+	+	2.913	+	+	+	**PA**
H13	+	+	+	+	+	2.711	+	+	+	**PA**
H17	+	+	+	+	+	2.717	+	+	+	**PA**
H18	+	+	+	+	+	2.674	+	+	+	**PA**
H22	+	+	+	+	+	2.263	+	+	+	**PA**

Laboratory I

Aerobic mesophilic flora:2,6.10^5 CFU/g

Sample N°	Reference method ISO 11290-1					Alternative method:Solus Listeria ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
I2	-	-	-	-	-	0.035	-	-	-	**NA**
I8	-	-	-	-	-	0.044	-	-	-	**NA**
I10	-	-	-	-	-	0.031	-	-	-	**NA**
I12	-	-	-	-	-	0.036	-	-	-	**NA**
I15	-	-	-	-	-	0.034	-	-	-	**NA**
I16	-	-	-	-	-	0.031	-	-	-	**NA**
I20	-	-	-	-	-	0.032	-	-	-	**NA**
I23	-	-	-	-	-	0.034	-	-	-	**NA**
I6	+	+	+	+	+	2.587	+	+	+	**PA**
I7	+	+	+	+	+	2.563	+	+	+	**PA**
I9	+	+	+	+	+	2.525	+	+	+	**PA**
I11	+	+	+	+	+	2.552	+	+	+	**PA**
I14	+	+	+	+	+	2.655	+	+	+	**PA**
I19	+	+	+	+	+	2.692	+	+	+	**PA**
I21	+	+	+	+	+	2.7	+	+	+	**PA**
I24	+	+	+	+	+	2.601	+	+	+	**PA**
I1	+	+	+	+	+	2.714	+	+	+	**PA**
I3	+	+	+	+	+	2.792	+	+	+	**PA**
I4	+	+	+	+	+	2.78	+	+	+	**PA**
I5	+	+	+	+	+	2.724	+	+	+	**PA**
I13	+	+	+	+	+	2.681	+	+	+	**PA**
I17	+	+	+	+	+	2.695	+	+	+	**PA**
I18	+	+	+	+	+	2.773	+	+	+	**PA**
I22	+	+	+	+	+	2.647	+	+	+	**PA**

Laboratory J

Samples reception and analyses at day 3

Aerobic mesophilic flora:8,0.10^6 CFU/g

Sample N°	Reference method ISO 11290-1					Alternative method:Solus Listeria ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
J2	-	-	-	-	-	0.031	-	-	-	**NA**
J8	-	-	-	-	-	0.031	-	-	-	**NA**
J10	-	-	-	-	-	0.03	-	-	-	**NA**
J12	-	-	-	-	-	0.033	-	-	-	**NA**
J15	-	-	-	-	-	0.039	-	-	-	**NA**
J16	-	-	-	-	-	0.025	-	-	-	**NA**
J20	-	-	-	-	-	0.028	-	-	-	**NA**
J23	-	-	-	-	-	0.033	-	-	-	**NA**
J6	+	+	+	+	+	2.638	+	+	+	**PA**
J7	-	-	+	+	+	1.2	+	+	+	**PA**
J9	+	+	+	+	+	1.097	+	+	+	**PA**
J11	+	+	+	+	+	1.451	+	+	+	**PA**
J14	+	+	+	+	+	1.259	+	+	+	**PA**
J19	+	+	+	+	+	2.388	+	+	+	**PA**
J21	+	+	+	+	+	2.37	+	+	+	**PA**
J24	+	+	+	+	+	2.765	+	+	+	**PA**
J1	-	-	+	+	+	2.685	+	+	+	**PA**
J3	+	+	+	+	+	2.856	+	+	+	**PA**
J4	+	+	+	+	+	2.913	+	+	+	**PA**
J5	+	+	+	+	+	2.638	+	+	+	**PA**
J13	+	+	+	+	+	2.774	+	+	+	**PA**
J17	+	+	+	+	+	2.774	+	+	+	**PA**
J18	+	+	+	+	+	2.855	+	+	+	**PA**
J22	+	+	+	+	+	2.763	+	+	+	**PA**

Laboratory K

Aerobic mesophilic flora:6,8.10^5 CFU/g

Sample N°	Reference method ISO 11290-1					Alternative method:Solus Listeria ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
K2	-	-	-	-	-	0.036	-	-	-	**NA**
K8	-	-	-	-	-	0.041	-	-	-	**NA**
K10	-	-	-	-	-	0.037	-	-	-	**NA**
K12	-	-	-	-	-	0.041	-	-	-	**NA**
K15	-	-	-	-	-	0.04	-	-	-	**NA**
K16	-	-	-	-	-	0.033	-	-	-	**NA**
K20	-	-	-	-	-	0.039	-	-	-	**NA**
K23	-	-	-	-	-	0.042	-	-	-	**NA**
K6	+	+	+	+	+	4.949	+	+	+	**PA**
K7	+	+	+	+	+	4.949	+	+	+	**PA**
K9	+	+	+	+	+	3.392	+	+	+	**PA**
K11	+	+	+	+	+	3.339	+	+	+	**PA**
K14	+	+	+	+	+	3.367	+	+	+	**PA**
K19	+	+	+	+	+	3.296	+	+	+	**PA**
K21	+	+	+	+	+	3.361	+	+	+	**PA**
K24	+	+	+	+	+	3.256	+	+	+	**PA**
K1	+	+	+	+	+	3.323	+	+	+	**PA**
K3	+	+	+	+	+	3.328	+	+	+	**PA**
K4	+	+	+	+	+	3.33	+	+	+	**PA**
K5	+	+	+	+	+	3.415	+	+	+	**PA**
K13	+	+	+	+	+	3.389	+	+	+	**PA**
K17	+	+	+	+	+	3.331	+	+	+	**PA**
K18	+	+	+	+	+	3.326	+	+	+	**PA**
K22	+	+	+	+	+	3.314	+	+	+	**PA**

Laboratory L

Aerobic mesophilic flora:2,4.10^7 CFU/g

Sample N°	Reference method ISO 11290-1					Alternative method:Solus Listeria ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
L2	-	-	-	-	-	0.063	-	-	-	**NA**
L8	-	-	-	-	-	0.059	-	-	-	**NA**
L10	-	-	-	-	-	0.058	-	-	-	**NA**
L12	-	-	-	-	-	0.062	-	-	-	**NA**
L15	-	-	-	-	-	0.051	-	-	-	**NA**
L16	-	-	-	-	-	0.059	-	-	-	**NA**
L20	-	-	-	-	-	0.061	-	-	-	**NA**
L23	-	-	-	-	-	0.05	-	-	-	**NA**
L6	+	+	+	+	+	2.971	+	+	+	**PA**
L7	+	+	+	+	+	2.968	+	+	+	**PA**
L9	+	+	+	+	+	2.96	+	+	+	**PA**
L11	+	+	+	+	+	2.966	+	+	+	**PA**
L14	+	+	+	+	+	2.841	+	+	+	**PA**
L19	+	+	+	+	+	2.876	+	+	+	**PA**
L21	+	+	+	+	+	2.853	+	+	+	**PA**
L24	+	+	+	+	+	2.849	+	+	+	**PA**
L1	+	+	+	+	+	2.857	+	+	+	**PA**
L3	+	+	+	+	+	2.85	+	+	+	**PA**
L4	+	+	+	+	+	2.817	+	+	+	**PA**
L5	+	+	+	+	+	2.878	+	+	+	**PA**
L13	+	+	+	+	+	2.991	+	+	+	**PA**
L17	+	+	+	+	+	2.801	+	+	+	**PA**
L18	+	+	+	+	+	2.817	+	+	+	**PA**
L22	+	+	+	+	+	2.815	+	+	+	**PA**

Laboratory M

Aerobic mesophilic flora:2,2.10^7 CFU/g

Sample N°	Reference method ISO 11290-1					Alternative method:Solus Listeria ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
M2	-	-	-	-	-	0.036	-	-	-	**NA**
M8	-	-	-	-	-	0.042	-	-	-	**NA**
M10	-	-	-	-	-	0.035	-	-	-	**NA**
M12	-	-	-	-	-	0.039	-	-	-	**NA**
M15	-	-	-	-	-	0.044	-	-	-	**NA**
M16	-	-	-	-	-	0.043	-	-	-	**NA**
M20	-	-	-	-	-	0.038	-	-	-	**NA**
M23	-	-	-	-	-	0.054	-	-	-	**NA**
M6	+	+	+	+	+	2.781	+	+	+	**PA**
M7	+	+	+	+	+	2.783	+	+	+	**PA**
M9	+	+	+	+	+	2.644	+	+	+	**PA**
M11	+	+	+	+	+	2.592	+	+	+	**PA**
M14	+	+	+	+	+	2.778	+	+	+	**PA**
M19	+	+	+	+	+	2.866	+	+	+	**PA**
M21	+	+	+	+	+	2.79	+	+	+	**PA**
M24	+	+	+	+	+	2.671	+	+	+	**PA**
M1	+	+	+	+	+	3,000	+	+	+	**PA**
M3	+	+	+	+	+	2.9	+	+	+	**PA**
M4	+	+	+	+	+	2.893	+	+	+	**PA**
M5	+	+	+	+	+	2.852	+	+	+	**PA**
M13	+	+	+	+	+	2.977	+	+	+	**PA**
M17	+	+	+	+	+	2.994	+	+	+	**PA**
M18	+	+	+	+	+	2.807	+	+	+	**PA**
D22	+	+	+	+	+	3.018	+	+	+	**PA**

Laboratory N

Aerobic mesophilic flora:1,3.10^7 CFU/g

Sample N°	Reference method ISO 11290-1					Alternative method:Solus Listeria ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
N2	-	-	-	-	-	0.032	-	-	-	**NA**
N8	-	-	-	-	-	0.031	-	-	-	**NA**
N10	-	-	-	-	-	0.028	-	-	-	**NA**
N12	-	-	-	-	-	0.04	-	-	-	**NA**
N15	-	-	-	-	-	0.098	-	-	-	**NA**
N16	-	-	-	-	-	0.03	-	-	-	**NA**
N20	-	-	-	-	-	0.029	-	-	-	**NA**
N23	-	-	-	-	-	0.088	-	-	-	**NA**
N6	+	+	+	+	+	2.982	+	+	+	**PA**
N7	+	+	+	+	+	2.954	+	+	+	**PA**
N9	+	+	+	+	+	3.113	+	+	+	**PA**
N11	+	+	+	+	+	3.069	+	+	+	**PA**
N14	+	+	+	+	+	2.939	+	+	+	**PA**
N19	+	+	+	+	+	3.182	+	+	+	**PA**
N21	+	+	+	+	+	2.934	+	+	+	**PA**
N24	+	+	+	+	+	3.051	+	+	+	**PA**
N1	+	+	+	+	+	3.168	+	+	+	**PA**
N3	+	+	+	+	+	3.133	+	+	+	**PA**
N4	+	+	+	+	+	3.115	+	+	+	**PA**
N5	+	+	+	+	+	3.203	+	+	+	**PA**
N13	+	+	+	+	+	3.193	+	+	+	**PA**
N17	+	+	+	+	+	2.834	+	+	+	**PA**
N18	+	+	+	+	+	3.079	+	+	+	**PA**
N22	+	+	+	+	+	2.99	+	+	+	**PA**