MicroVal Study 2019LR88: Qualitative Method

Method Comparison and Interlaboratory Study Report for the ISO 16140-2:2016 Validation of the One Broth One Plate for *Salmonella* for the Detection of *Salmonella* spp. In Food, Feed and Environmental Samples in a Harmonized Study

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The report is prepared in accordance with ISO 16140-2:2016 [1] and MicroVal Technical Committee interpretation of ISO 16140-2, version 1.0.

Company: Neogen

Expert Laboratory: Q Laboroatories

Method/Kit name: One Broth One Plate for *Salmonella* (OBOP-S)

Validation standard: ISO 16140-2:2016 Microbiology of food chain – Method Validation – Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method.

Reference methods: ISO 6579-1:2017 Microbiology of food chain – Horizontal method for detection, enumeration and serotyping of *Salmonella* – Part 1: Detection of *Salmonella* spp..

Scope of validation: Food Samples, Feed Samples and Environmental Samples

Certification organization: Lloyd's Register

List of abbreviations

A(lt)	Alternative method
AL	Acceptability Limit
Art. Cont.	Artificial contamination
CFU	Colony Forming Units
EL	Expert Laboratory
FP	False Positive
FPR	False Positive Ratio
g	Gram
h	Hour
ILS	Interlaboratory Study
LOD	Level of Detection
MCS	Method Comparison Study
min	minute
ml	millilitre
MR	(MicroVal) Method Reviewer
MVTC	MicroVal Technical Committee
NA	Negative Agreement
na	not applicable
ND	Negative Deviation
neg (-)	negative/no growth/no reaction/target not detected
NS	Non-Suspect growth
nt	not tested

PA	Positive Agreement
PD	Positive Deviation
pos (+)	positive/growth/target detected
PPNA	Presumptive Positive Negative Argreement (False Positive result)
PPND	Presumptive Positive Negative Deviation (False Positive result)
R(ef)	Reference method
RLOD	Relative Level of Detection
RT	Relative Trueness
S	Suspect growth
SE	Relative Sensitivity
SP	Relative Specificity
TP	True Positive
BPW	Buffered Peptone Water (ISO Formulation)
CASE	Harlequin® Chromogenic Agar for Salmonella Esterase
MKTTn	Muller-Kauffmann Tetrathionate-Novobiocin Broth
RVS	Rappaport-Vassiliadis Medium with Soya
XLD	Xylose Lysine Deoxycholate Agar
BGA	Brilliant Green Agar
TSA	Tryptone Soya Agar

Contents

1 Introduction

This project, a MicroVal valdiation study based on ISO 16140-2 :2016, evaluated an alternative method, the One Broth One Plate for *Salmonella* (OBOP-S) method, for the detection of *Salmonella* species in 7 different categories. The evaluation was performed by Q Laboratories as the MicroVal Expert Laboratory. Data from this evaluation will also be submitted to AOAC INTERNATIONAL for certification.

Below is a summary of the different enrichment protocols used for analysis by the alternative method.

1.1. For all food matrices analyzed, 25 g test portions were analyzed.
1.2. The food matrices and environmental test portions were analyzed after 16 hours of enrichment.
1.3. For all matrices, the primary enrichment was HQ BPW + *Salmonella* supplement and incubated at 41.5 ± 1°C for 18 ± 2 hours. The *Salmonella* supplement can be added immediately or up to 60 ± 5 minutes, if kept at room temperature.
1.4. Samples were processed from the primary enrichment according to the OBOP-S method.

Reference method: ISO 6579-1:2017

Scope of the validation study is: Broad Range of Food Samples, Feed Samples and Environmental Samples

Samples were prepared in accordance with ISO 6887-1, 4, and 5

Categories included:

- Meat Products
- Dairy Products
- Seafood
- Fruits and Vegetables
- Egg products
- Feed
- Environmental Samples

Criteria evaluated during the study:

- Method Comparison Study (MCS)
  - Sensitivity study
  - Relative level of detection study
  - Inclusivity and exclusivity study

- Interlaboratory Study (ILS)
  - Specificity

- Sensitivity
- Relative Trueness
- False positive ratio

2 Method protocols

The Method Comparison Study (MCS) was carried out using 25 gram portions of sample material for food matrices and environmental samples. The test portions were evaluated after 16 hours of primary enrichment. For all matrices, the primary enrichment for the method is HQ BPW + *Salmonella* supplement up to 60 ± 5 minutes. The *Salmonella* supplement can be added within 1 hour ± 5 minutes after enrichment at room temperature, or within 1 hour after enrichment.

For all types, the 25 gram test portions were evaluated as unpaired samples as there is no shared initial (pre)-enrichment step for the reference and the alternative method. All resulting data were treated as unpaired data (EN-ISO 16140-2).

2.1 Reference method

See the flow diagram in Annex A.

Sample preparations used in the reference method were conducted according to ISO 6887 parts 1-5 and ISO 6579-1:2017 for all categories analyzed.

2.2 Alternative method

See the flow diagram of the alternative method in Annex B.

Sample preparations used in the reference and the alternative methods will be done according to ISO 6887-1, 4 and 5. See the OBOP-S kit insert in Annex C.

The alternative method principle is a cultural based method.

CASE is a selective chromogenic agar for the detection of *Salmonella*. It utilizes a dual chromogenic system to differentiate between *Salmonella* and non-target organisms. The first chromogen is a target for esterase activity present in *Salmonella* species. This chromogen results in blue/green colonies on CASE agar. The second chromogen is a target for ß-glucosidase present in non-target organisms that are able to grow on the agar and also possess esterase activity. The second chromogen masks the utilization of the first resulting in black colonies in non-*Salmonella*. All other organisms are either inhibited or grow colorless on the agar.

The medium is able to detect non-motile *Salmonella* (*S.* Pullorum and *S*. Gallinarum) as well as monophasic variants (1,4,[5],12:i:-). The medium is also able to detect serovars that present weak esterase activity (*S*. Dublin), and lactose positive strains (*S*. *arizonae*).

The OBOP-S protocol is the following:

2.2.1 Enrichment in Buffered Peptone Water – ISO Formulation (with the addition of the *Salmonella* supplement up to 60 minutes) for 18 ± 2 hours (analysis was conducted at 16 hours) at 41.5 ± 1ºC.

2.2.2 Following enrichment, a 10 µL test portion will be streaked to CASE agar using a sterile loop. All plates will be incubated at 37 ± 1ºC for 24 ± 3 hours.

2.2.3 Following incubation of the CASE agar, plates will be interpreted. Salmonella colonies are blue/green.

2.2.4 Typical colonies will be confirmed by the following:

2.2.4.1 Following the ISO 6579-1: 2017 method

2.2.4.2 Performing a *Salmonella* Latex Test on an isolated colony

- *Salmonella* Test Kit (Oxoid)
- Microgen *Salmonella* (Microgen Bioproduct)

2.3 Study design

The Method Comparison Study for all food matrices was carried out using 25 gram portions of sample material for the alternative method. The environmental samples were analyzed using a 25 mL or g or environmental sampling sponge or swab samples for the alternative method.

For all test portions, there is no shared initial (pre)-enrichment step for the reference and the alternative method. Different test portions coming from the same batch of product (Item) were used for the two methods. All resulting data were treated as **unpaired** data (EN-ISO 16140-2).

3 Method comparison study

3.1 Sensitivity Study

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

3.1.1 Categories and sample types

A total of 7 Categories were included in this validation study.

A minimum of 60 individual items for each Category were tested by both the reference method and the alternative method, with a minimum of 30 positive samples per Category required. Each Category was made up of at least 3 Types, with at least 20 Items representative for that Type.

The categories, the types and the number of samples analyzed are presented in Table 1.

Table 1. List of Categories, Types, and examples of Items to be tested within the sensitivity study.

Category	Type	Items (Examples)	# of Samples Analyzed
Meat Products	Raw Meat	Raw ground beef, raw beef trim, veal	22
	Raw Poultry	Chicken breast, turkey, chicken wings	20
	Delicatessen/ Fermented and cured meat products	Dry sausage, ham, bacon	22
Dairy Products	Dehydrated Milk	Infant formula, whey, skim milk	24
	Pasteurized Products	Cream cheese, cheese, pasteurized cream	21
	Raw Milk Products	Raw milk, raw cheese	20
Seafood	Raw and ready to cook fish and seafood	Raw fish, oyster, clam, scallop, mussel, shrimp, crab	21
	Ready-to eat, ready-to-reheat products	cured and smoked fish, shelled and shucked products, sea food terrines, roll herring, anchovy	20
	Ready-to-cook foods	fish sticks, cod brandade	20
Fruits and Vegetables	Fruits	fresh squeezed fruit juices, smoothies, carrot juices, melon, strawberries, apple juice	20
	Vegetables	celery, mushrooms, leafy produce, sprouts, onions, parsley	20
	Others: Ready-to-Eat and Ready to Reheat	Fruit mixes, canned corn, frozen medley, bagged mashed vegetables, frozen spinach, frozen berries	20
Egg products	Egg based preparation	Omelettes	20
	Pasteurized liquid portions of egg	Egg beaters, egg whites	20
	Dehydrated egg products	Egg powders	22
Feed	Dry	Cattle feed, chicken feed, dry pet food	21
	Wet	Wet pet food	22
	Ingredients	Soybean, grain, bran	22
Environmental Samples	Surfaces	Swabs, sponges	20
	Process Water	Washing water, process water	20
	Dusts	Dusts, sweepings	26

[1]See Annex B for Protocol information.

A total of 443 samples were analyzed. The distribution of positive and negative samples per tested category and type is given respectively in Table 2.

Table 2. Distribution per tested category and type

Category	Type	Sample Size	Positive Samples[1]	Negative Samples	# of Samples Analyzed
Meat Products	Raw Meat	25 g	10	12	22
	Raw Poultry	25 g	15	5	20
	Delicatessen/ Fermented and cured meat products	25 g	10	12	22
	Total		**35**	**29**	**64**
Dairy Products	Dehydrated Milk	25 g	11	13	24
	Pasteurized Products	25 g	10	11	21
	Raw Milk Products	25 g	9	11	20
	Total		**30**	**35**	**65**
Seafood	Raw and ready to cook fish and seafood	25 g	10	11	21
	Ready-to eat, ready-to-reheat products	25 g	10	10	20
	Ready-to-cook foods	25 g	10	10	20
	Total		**30**	**31**	**61**
Fruits and Vegetables	Fruits	25 g	11	9	20
	Vegetables	25 g	10	10	20
	Others: Ready-to-Eat and Ready to Reheat	25 g	11	9	20
	Total		**32**	**28**	**60**
Egg products	Egg based preparation	25 g	11	9	20
	Pasteurized liquid portions of egg	25 g	9	11	20
	Dehydrated egg products	25 g	10	12	22
	Total		**30**	**32**	**62**
Feed	Dry	25 g	10	11	21
	Wet	25 g	11	11	22
	Ingredients	25 g	9	13	22
	Total		**30**	**35**	**65**
Environmental Samples	Surfaces	sampling device	9	11	20
	Process Water	25 ml	10	10	20
	Dusts	25 g	18	8	26
	Total		**37**	**29**	**68**
All Categories			**218**	**225**	**443**

[1]Postive by either the alternative or the reference method.

3.1.2 Test sample preparation

A total of 23.93% of the samples evaluated were naturally contaminated with the target analyte. Out of the 218 total positive results observed, 106 of the positive samples were obtained from natural contamination (48.62%).

Artificial contaminations were done by seeding protocols.

For dehydrated milk, dry feed, and other ingredient test products; a lyophilized culture was used. For environmental sponges and process water, inoculation followed protocols as outlined in AOAC Appendix J, as recommended by ISO 16140-2. For

environmental surfaces, inoculation was perforemd by spiking overnight cultures of *Salmonella* onto a surface and then stored under relevant conditions for 24 hours. For process water, the overnight culture was heat treated at 50-55 °C for 10 ± 1 minute prior to inoculation. For the strains used to inoculate these samples, the level of injury was evaluated by plating on a non-selective agar (TSA) and a selective agar (XLD*)*. As proposed, a ≥ 0.5 log injured cells was obtained. The artificial contaminations are presented in Annex D.

The *Salmonella* strains used for artificial inoculation originated from comparable sample types as the ones that were inoculated. Strains used to inoculate items were used on a maximum of 5 different items.

In total, 106 samples were artificially contaminated by seeding, using 26 different strains. Most of the spiking inoculations, after injury protocols on the inoculum, were lower or equal to 5 CFU/sample.

Regardless of presumptive result, all test portions analyzed by the alternative method were confirmed following ISO 6579-1:2017 reference method, beginning with a transfer to MKTTn and RVS secondary enrichment broths. See Annex A for confirmation steps of the ISO 6579-1:2017 reference method.

In order to improve the practicability of the method to user labs, enrichment broths for the alternative method were stored for 72 hours at 5 ± 3 ºC. All presumptive positive and discrepant results were reanalyzed with the One Broth One Plate – *Salmonella* method after the 72 hour hold time. All samples were reconfirmed at 72 hours following the ISO 6579-1:2017 reference method, and the alternative confirmation.

3.1.3 Confirmation protocols

ISO 6579-1:2017/Traditional Confirmation

For the raw ground turkey, queso fresco, smoked salmon, cantaloupe, dry pet food and pasteurized liquid egg test portions, a 25 g sample was enriched with 225 mL of Buffered Peptone Water (BPW) ISO formulation. The stainless steel environmental sponges were enriched with 100 mL of BPW ISO. Subsequently, the infant formula enrichments were incubated at 34 to 38°C for 18 ± 2 hours.

Following incubation, 0.1 mL of primary enrichment was transferred into 10 mL of Rappaport-Vassiliadis medium with soya (RVS) while 1.0 mL of the primary enrichment was transferred into 10 mL of Muller-Kauffmann tetrathionate-novobiocin broth (MKTTn). The RVS tubes were incubated at 41.5 ± 1ºC for 24 ± 2 hours and the MKTTn tubes were incubated at 37 ± 1ºC for 24 ± 2 hours. Following incubation, a loopful of the secondary enrichments were streaked to Xylose Lysine Deoxycholate (XLD) agar and Brilliant Green agar (BGA). All plates were inverted incubated at 37 ± 1ºC for 24 ± 3 hours. One suspected colony from either a XLD or BGA plate was transferred to Tryptone Soya Agar (TSA) and incubated at 34 to 38°C for 24 ± 3 hours. Typical morphology for XLD are red colonies with or without a black center and a lightly transparent zone. Typical

morphology for BGA are opaque pink colonies. After incubation, typical isolates were purified on TSA, had Poly O & H serology performed and identified using the Bruker MALDI following the MicroVal certified method 2017LR72.

Agglutination Confirmation (Alternative Confirmation)

All samples were also confirmed by conducting two latex agglutinations utilizing the *Salmonella* Test Kit (Oxoid) and Microgen *Salmonella.*

3.1.4 Sensitivity study results

All raw data on the sensitivity study are presented in Annex E. Sample numbers in with a red astricks (*) indicate artificial inoculation of the sample (see Annex D for details on artificial inoculation).

Table 3 shows the summary of results of the reference method and the alternative methods for all Categories.

Table 4 shows the Interpretation of sample results between the reference and alternative method (based on the confirmed alternative method).

Table 3 - Summary of sensitivity study results – *all categories*

Result	Reference method positive (R+)	Reference method negative (R-)
Alternative method positive (A+)	Positive agreement (R+/A+) **PA = 207**	Positive deviation (R-/A+) **PD = 13**
Alternative method negative (A-)	Negative deviation (R+/A-). **ND = 4**	Negative agreement (R-/A-) **NA = 219**

Table 4 – Interpretation of sample results between the reference and alternative method (based on the confirmed alternative method)

Category	Type	PA	NA[1]	PD	ND[2]	PPNA[3]	PPND[3]	Total
Meat Products	Raw Meat	10	12	0	0	0	0	22
	Raw Poultry	15	5	0	0	0	0	20
	Delicatessen/ Fermented and cured meat products	10	12	0	0	0	0	22
	Total	**35**	**29**	**0**	**0**	**0**	**0**	**64**
Dairy Products	Dehydrated Milk	10	13	1	0	0	0	24
	Pasteurized Products	10	11	0	0	0	0	21
	Raw Milk Products	8	11	1	0	0	0	20
	Total	**28**	**35**	**2**	**0**	**0**	**0**	**65**
Seafood	Raw and ready to cook fish and seafood	9	11	0	1	0	0	21
	Ready-to eat, ready-to-reheat products	10	10	0	0	0	0	20
	Ready-to-cook foods	10	10	0	0	0	0	20
	Total	**29**	**31**	**0**	**1**	**0**	**0**	**61**
Fruits and Vegetables	Fruits	9	9	2	0	0	0	20
	Vegetables	8	10	2	0	0	0	20
	Others: Ready-to-Eat and Ready to Reheat	7	9	4	0	0	0	20
	Total	**24**	**28**	**8**	**0**	**0**	**0**	**60**
Egg products	Egg based preparation	11	9	0	0	0	0	20
	Pasteurized liquid portions of egg	9	11	0	0	0	0	20
	Dehydrated egg products	10	12	0	0	0	0	22
	Total	**30**	**32**	**0**	**0**	**0**	**0**	**62**
Feed	Dry	9	11	1	0	0	0	21
	Wet	10	11	1	0	0	0	22
	Ingredients	9	13	0	0	0	0	22
	Total	**28**	**35**	**2**	**0**	**0**	**0**	**65**
Environmental Samples	Surfaces	7	11	1	1	0	0	20
	Process Water	9	10	0	1	0	0	20
	Dusts	17	8	0	1	0	0	28
	Total	**33**	**29**	**1**	**3**	**0**	**0**	**68**
All Categories		**207**	**219**	**13**	**4**	**0**	**0**	**431**

[1]NA: Including PPNA, [2]ND: Including PPND, [3]FP = PPNA + PPND

Throughout the sensitivity study, there were zero PPNA or PPND (zero false positives) observed. To make every attempt to confirm the false negative result, the primary enrichment was transferred to RVS and MKTTn. The false negative result was confirmed.

3.1.5 Sensitivity study calculations

The sensitivity study parameters as specified in Table 5 were calculated for all Categories and Types, and the overview is given in Table 6.

Table 5 – Formula to calculate the sensitivity parameters

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

Table 6 - Overview calculated sensitivity parameters per Category and Type

Category	Type	PA	NA	PD	ND	FP	SE alt %	SE ref %	RT %	FPR %
Meat Products	Raw Meat	10	12	0	0	0	100.0	100.0	100.0	0.0
	Raw Poultry	15	5	0	0	0	100.0	100.0	100.0	0.0
	Delicatessen/ Fermented and cured meat products	10	12	0	0	0	100.0	100.0	100.0	0.0
	Total	**35**	**29**	**0**	**0**	**0**	**100.0**	**100.0**	**100.0**	**0.0**
Dairy Products	Dehydrated Milk	10	13	1	0	0	100.0	90.9	95.8	0.0
	Pasteurized Products	10	11	0	0	0	100.0	100.0	100.0	0.0
	Raw Milk Products	8	11	1	0	0	100.0	88.9	95.0	0.0
	Total	**28**	**35**	**2**	**0**	**0**	**100.0**	**93.3**	**96.9**	**0.0**
Seafood	Raw and ready to cook fish and seafood	9	11	0	1	0	90.0	100.0	95.2	0.0
	Ready-to eat, ready-to-reheat products	10	10	0	0	0	100.0	100.0	100.0	0.0
	Ready-to-cook foods	10	10	0	0	0	100.0	100.0	100.0	0.0
	Total	**29**	**31**	**0**	**1**	**0**	**96.7**	**100.0**	**98.4**	**0.0**
Fruits & Vegetables	Fruits	9	9	2	0	0	100.0	81.8	90.0	0.0
	Vegetables	8	10	2	0	0	100.0	80.0	90.0	0.0
	Others: Ready-to-Eat and Ready to Reheat	7	9	4	0	0	100.0	63.6	80.0	0.0
	Total	**24**	**28**	**8**	**0**	**0**	**100.0**	**75.0**	**86.7**	**0.0**
Egg Products	Egg based preparation	11	9	0	0	0	100.0	100.0	100.0	0.0
	Pasteurized liquid portions of egg	9	11	0	0	0	100.0	100.0	100.0	0.0
	Dehydrated egg products	10	12	0	0	0	100.0	100.0	100.0	0.0
	Total	**30**	**32**	**0**	**0**	**0**	**100.0**	**100.0**	**100.0**	**0.0**
Feed	Dry	9	11	1	0	0	100.0	90.0	95.2	0.0
	Wet	10	11	1	0	0	100.0	90.3	95.5	0.0
	Ingredients	9	13	0	0	0	100.0	100.0	100.0	0.0
	Total	**28**	**35**	**2**	**0**	**0**	**100.0**	**93.3**	**96.9**	**0.0**
Enrivonmental Samples	Surfaces	7	11	1	1	0	88.9	88.9	90.0	0.0
	Process Water	9	10	0	1	0	90.0	100.0	95.0	0.0
	Dusts	17	8	0	1	0	94.4	100.0	96.2	0.0
	Total	**33**	**29**	**1**	**3**	**0**	**91.9**	**97.3**	**93.9**	**0.0**
All Categories		**207**	**219**	**13**	**4**	**0**	**98.2**	**94.2**	**96.2**	**0.0**

*The latex agglutination alternative confirmation and the ISO reference method confirmation procedures produced the same result for all samples.

[1]NA: Including PPNA, [2]ND: Including PPND, [3]FP = PPNA + PPND

3.1.6 Discordant results

The positive deviations that were observed during the sensitivity evaluation are listed below in Table 7.

Table 7 – Discordant Results

Category	Type	Sample nº	Alternative method results	(additional) Confirmatory test results	Reference method results	Inoculating Organism (CFU/Sample)
Dairy Products	Dehydrated Milk	4	+	+	-	*S. enterica* subsp. *enterica* Infantis ATCC 51741 (2.1)
	Raw Milk Products	6	+	+	-	*S. enterica* subsp. *enterica* Krefeld UPENN STS 58 (2.7)
Seafood Products	Raw & Ready-to-Cook Fish and Seafood	8	-	-	+	Natural Contamination
Fruits and Vegetables	Fruit	8	+	+	-	Natural Contamination
		10	+	+	-	Natural Contamination
	Vegetabes	10	+	+	-	Natural Contamination
		14	+	+	-	Natural Contamination
	Ready-to-Eat and Ready-to-Reheat Fruits and Vegetables	11	+	+	-	Natural Contamination
		12	+	+	-	Natural Contamination
		19	+	+	-	Natural Contamination
		20	+	+	-	Natural Contamination
Feed	Dry	3	+	+	-	*S. enterica* subsp. *enterica* Typhimurium QL 11007-2 (1.7)
	Wet	7	+	+	-	*S. enterica* subsp. *arizonae* QL 11007-4 (2.3)
Environmental Samples	Surface Sample	5	+	+	-	Natural Contamination
		18	-	-	+	Natural Contamination
	Process Water	7	-	-	+	*S. enterica* subsp. *enterica* Abaeteuba ATCC 35640 (1.3)
	Dust	11	-	-	+	Natural Contamination

A total of seventeen (17) deviations were observed. Thirteen (13) positive deviations were observed. There were four (4) negative deviations were observed. Nine (9) of the positive deviations were associated with naturally contaminated samples and four (4) of the positive deviations were observed with artificial contaminated samples.

Each positive deviation associated with an artificially contaminated sample was observed with a different strain.

For the three (3) negative deviations for the dusts, the naturally contaminated samples were from the same source. Therefore, two of the deviations were removed from the analysis. The natural contamination was from different locations, and from different serogroups.

The analysis of sensitivity study according to ISO 16140-2:2016 is given in Table 8.

Table 8 - Interpretation of the sensitivity study results

Category	Type	ND	PD	ND[1]-PD	AL
Meat Products	Raw Meat	0	0		
	Raw Poultry	0	0		
	Delicatessen/ Fermented and cured meat products	0	0		
	Total	**0**	**0**	**0**	**3**
Dairy Poducts	Dehydrated Milk	0	1		
	Pasteurized Products	0	0		
	Raw Milk Products	0	1		
	Total	**0**	**2**	**-2**	**3**
Seafood	Raw and ready to cook fish and seafood	1	0		
	Ready-to eat, ready-to-reheat products	0	0		
	Ready-to-cook foods	0	0		
	Total	**1**	**0**	**1**	**3**
Fruits & Vegetables	Fruits	0	2		
	Vegetables	0	2		
	Others: Ready-to-Eat and Ready to Reheat	0	4		
	Total	**0**	**8**	**-8**	**3**
Egg Products	Egg based preparation	0	0		
	Pasteurized liquid portions of egg	0	0		
	Dehydrated egg products	0	0		
	Total	**0**	**0**	**0**	**3**
Feed	Dry	0	1		
	Wet	0	1		
	Ingredients	0	0		
	Total	**0**	**2**	**-2**	**3**

Table 8 - Interpretation of the sensitivity study results (continued)

Category	Type	ND	PD	ND1-PD	AL
Enrivonmental Samples	Surfaces	1	1		
	Process Water	1	0		
	Dusts	1	0		
	Total	**3**	**1**	**2**	**3**
All Categories		**4**	**13**	**-9**	**7**

[1] ND: including PPND

3.1.7 Conclusion sensitivity study

Unpaired Testing: The observed values for ND-PD for the individual categories and for all categories meet the acceptability limits (observed values ≤ AL).

3.1.8 Enrichment broth storage

Enrichment broth, HQ BPW+ *Salmonella* supplement, storage was done at 2-8 °C for 72 hrs.

All confirmed positive (195) and descrepent (19) samples were tested again after enrichment broth storage. Zero (0) changes were observed.

Table 9 - Interpretation of the sensitivity study results after storage of the enrichment broth

Category	Type	ND	PD	ND[1]-PD	AL
Meat Products	Raw Meat	0	0		
	Raw Poultry	0	0		
	Delicatessen/ Fermented and cured meat products	0	0		
	Total	**0**	**0**	**0**	**3**
Dairy Poducts	Dehydrated Milk	0	1		
	Pasteurized Products	0	0		
	Raw Milk Products	0	1		
	Total	**0**	**2**	**-2**	**3**
Seafood	Raw and ready to cook fish and seafood	1	0		
	Ready-to eat, ready-to-reheat products	0	0		
	Ready-to-cook foods	0	0		
	Total	**1**	**0**	**1**	**3**
Fruits & Vegetables	Fruits	0	2		
	Vegetables	0	2		
	Others: Ready-to-Eat and Ready to Reheat	0	4		
	Total	**0**	**8**	**-8**	**3**
Egg Products	Egg based preparation	0	0		
	Pasteurized liquid portions of egg	0	0		
	Dehydrated egg products	0	0		
	Total	**0**	**0**	**0**	**3**
Feed	Dry	0	1		
	Wet	0	1		
	Ingredients	0	0		
	Total	**0**	**2**	**-2**	**3**
Enrivonmental Samples	Surfaces	1	1		
	Process Water	1	0		
	Dusts	1	0		
	Total	**3**	**1**	**2**	**3**
All Categories		**4**	**13**	**-9**	**7**

[1] ND: including PPND

Conclusion for the enrichment broth storage:

The observed values for ND-PD for the individual categories and for all categories meet the acceptability limits (observed values ≤ AL).

3.2 Relative level of detection study

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

3.2.1 Categories, sample types and strains

One sample type and one relevant target micro-organism for this sample type was chosen for each of the Categories in this validation study, as shown in Table 10.

Table 10 - List of selected types and strains per category, as tested within the relative level of detection study.

Category	Food Types	Inoculated strain	Origin	Storage Conditions Before Analysis
Meat Products	Raw Ground Turkey	*Salmonella enterica* subspecies *enterica* Typhimurium ATCC 14028	Animal Tissue	Overnight Culture Held at 2 -8°C for 48-72 Hours
Dairy Products	Queso Fresco	*Salmonella enterica* subspecies *enterica* ATCC 51957	Not Available	Heat stressed at 50°C for 10 minutes Held at 2 -8°C for 48-72 Hours
Seafood	Smoked Salmon	*Salmonella enterica* subspecies *enterica* ATCC 8387	Not Available	Heat stressed at 50°C for 10 minutes Held at 2 -8°C for 48-72 Hours
Fruits and Vegetables	Cantaloupe	*Salmonella enterica* subspecies *enterica* ATCC 6962	Food Poisoning	Overnight Culture Held at 2 -8°C for 48-72 Hours
Feed	Dry Pet Food	*Salmonella enterica* subspecies *enterica* QL024.16	Pet Kibble	Lyophilized Culture Held at 20 - 25°C for 2 weeks
Pasteurized Egg	Liquid Pasteurized Egg	*Salmonella enterica* subspecies *enterica* ATCC 13076	Not Available	Heat stressed at 50°C for 10 minutes Held at 2 -8°C for 48-72 Hours
Environmental	Stainless Steel	*Salmonella enterica* subspecies *enterica* Derby NCTC 5721 & *Citrobacter freundii* ATCC 8090 (~10x target level)	Not Available	Overnight Culture Held at 20 - 25°C for 16 - 24 Hours

[1]ATCC-Americam Type Culture Collection

[2]QL-Q Laboratories, Inc Culture Collection

[3]NCTC-National Collection of Type Cultures

3.2.2 Test sample preparations

Three levels of artificial contamination were prepared for each type:

- Negative control level: One unnoculated in order to get 5 test portions,
- Low level: One inoculated between 0.2 and 2.0 CFU/sample in order to get 20 test portions providing fractional recovery (5-15 positive results out of 20),
- High level: One inoculated between 2.0 and 5.0 CFU/sample in order to get 5 test portions contaminated at a higher level.

A bulk lot of the food matrices were inoculated at each level, homogenized and stored as described in Table 10. For stainless steel, inoculation was perforemd by spiking overnight cultures of *Salmonella* onto a surface and then stored under the conditions described in Table 10.

3.2.3 RLOD study results

The tabulated raw data on the RLOD study are given in Annex F.

The RLOD calculations were performed using the Excel spread sheet (version 06-07-2015) of the international standard as described in ISO 16140-2: 2016.

The RLOD per Category and combined is given in Table 11.

Table 11 – 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
Raw Ground Turk	0.663	0.286	1.536	-0.411	0.420	0.978	1.672
Queso Fresco	0.721	0.260	1.996	-0.328	0.509	0.643	1.480
Smoked Salmon	1.170	0.437	3.132	0.157	0.492	0.320	0.749
Cantaloupe	0.539	0.202	1.440	-0.617	0.491	1.257	1.791
Dry Pet Food	0.698	0.235	2.074	-0.359	0.544	0.660	1.491
Pasteurized Liqui	0.621	0.229	1.687	-0.476	0.499	0.953	1.659
Stainless Steel	1.170	0.437	3.132	0.157	0.492	0.320	0.749
Combined	0.768	0.533	1.108	-0.264	0.183	1.441	1.850

3.2.4 Calcuation of the LOD_{50}

The LOD_{50} calculations were conducted according to Wilrich and Wilrich POD-LOD calulation, Verion 9 for each method. See tables 12 and 13 for the reference method and the alterantive method LOD_{50} calulations.

Table 12 – Presentation of LOD_{50} for the reference method

Results of the PODLOD calculations											
Matrix					$LOD_{50\%}$ = 50% limit of detection in cfu/g or cfu/ml			$LOD_{95\%}$ = 95% limit of detection in cfu/g or cfu/ml			Test statistic matrix effect
No. i	Designation Matrix$_i$	Matrix effect F_i	Log matrix effect f_i	SD of log matrix effect s_{fi}	Detection limit $d_{0.5,i}$	Lower conf. limit $d_{0.5,i,L}$	Upper conf. limit $d_{0.5,i,U}$	Detection limit $d_{0.95,i}$	Lower conf. limit $d_{0.95,i,L}$	Upper conf. limit $d_{0.95,i,U}$	$\lvert z_i \rvert$
1	Raw Ground Turkey	0.038	-3.272	0.277	0.731	0.420	1.272	3.159	1.816	5.495	0.004
2	Queso Fresco	0.015	-4.182	0.310	1.816	0.976	3.378	7.847	4.218	14.598	5.3E-05
3	Smoked Salmon	0.028	-3.563	0.300	0.978	0.537	1.782	4.226	2.319	7.700	0.005
4	Cantaloupe	0.058	-2.846	0.367	0.477	0.229	0.995	2.063	0.990	4.300	2.245
5	Dry Pet Food	0.019	-3.985	0.371	1.492	0.710	3.131	6.446	3.070	13.534	0.016
6	Liquid Pasteurized Egg	0.018	-4.006	0.309	1.523	0.822	2.823	6.582	3.551	12.199	5.3E-04
7	Stainless Steel	0.012	-4.396	0.314	2.249	1.199	4.218	9.719	5.182	18.228	1.4E-08
Combined results		0.022	-3.824	0.120	1.269	0.999	1.613	5.486	4.316	6.972	3.017
		based on the data of matrices 1, 2, 3, 4, 5, 6 and 7									

Table 13 – Presentation of LOD_{50} for the alternative method

Results of the PODLOD calculations											
Matrix					$LOD_{50\%}$ = 50% limit of detection in cfu/g or cfu/ml			$LOD_{95\%}$ = 95% limit of detection in cfu/g or cfu/ml			Test statistic matrix effect
No. i	Designation Matrix$_i$	Matrix effect F_i	Log matrix effect f_i	SD of log matrix effect s_{fi}	Detection limit $d_{0.5,i}$	Lower conf. limit $d_{0.5,i,L}$	Upper conf. limit $d_{0.5,i,U}$	Detection limit $d_{0.95,i}$	Lower conf. limit $d_{0.95,i,L}$	Upper conf. limit $d_{0.95,i,U}$	$\lvert z_i \rvert$
1	Raw Ground Turkey	0.055	-2.908	0.271	0.508	0.295	0.873	2.195	1.277	3.773	0.004
2	Queso Fresco	0.020	-3.928	0.299	1.409	0.774	2.562	6.088	3.347	11.072	5.0E-05
3	Smoked Salmon	0.025	-3.689	0.305	1.109	0.603	2.043	4.795	2.605	8.828	0.005
4	Cantaloupe	0.106	-2.240	0.309	0.260	0.140	0.483	1.125	0.606	2.090	1.767
5	Dry Pet Food	0.026	-3.660	0.348	1.077	0.537	2.161	4.655	2.321	9.339	0.015
6	Liquid Pasteurized Egg	0.026	-3.631	0.293	1.047	0.583	1.879	4.523	2.520	8.120	4.8E-04
7	Stainless Steel	0.011	-4.532	0.320	2.576	1.357	4.889	11.132	5.865	21.131	1.4E-08
Combined results		0.027	-3.622	0.116	1.037	0.822	1.309	4.481	3.551	5.655	2.858
		based on the data of matrices 1, 2, 3, 4, 5, 6 and 7									

3.2.5 Conclusion RLOD study

The RLOD values meet the acceptability limit, 2.5 for unpaired test portions for all categories tested.

3.3 Inclusivity/exclusivity study

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.

3.3.1 Protocols

Inclusivity: One hundred and six (106) *Salmonella* strains were freshly cultured in BPW (ISO) medium at 37 ± 1°C. Dilutions were made in order to inoculate 10 -100 CFU/ 225 mL enrichment broth (HQ BPW + *Salmonella* supplement). The alternative protocol was then performed after an enrichment time of 21 hours at 41.5 ± 1 ºC. All isolates were plated onto XLD to confirm the presence of *Salmonella* species and confirmed following ISO 6579-1:2017 and following the alternative confirmation procedure. A final confirmation was achieved by the Bruker MALDI Biotyper.

Exclusivity: Thirty-three (33) strains were freshly cultured in BHI medium at 37 ± 1°C for 16 hours. Dilutions were made in order to inoculate about 10^5 CFU/mL BPW (ISO) broth. The alternative protocol was then performed after an enrichment time for 21 hours at 41.5 ± 1 ºC. Isolates were plated onto XLD to confirm the absence of *Salmonella* species.

3.3.2 Results inclusivity and exclusivity study

All raw data on inclusivity and exclusivity are given in Annex G.

A total of 106 strains were tested for **inclusivity**. 106 of these strains showed the expected positive result. All the organisms produced typical results (blue/green colonies). 0 strains showed a negative result. The Microgen latex kit did not detect 10 of the organisms.

A total of 33 strains were tested for **exclusivity**. 33 of these strains showed the expected negative result. 0 strains showed a positive result. Of the 33 strains, no strains produced typical colonies (blue/green colonies). The CASE agar plates contained either no growth, white colonies or black colonies.

3.3.3 Conclusion inclusivity and exclusivity study

The alternative One Broth One Plate - *Salmonella* detection method is both selective and specific for the detection of *Salmonella* species.

4 Conclusions Method Comparison Study

Overall, the conclusions for the Method Comparison Study are:

The observed values for ND-PD for the individual categories and for all categories meet the acceptability limits (observed values ≤ AL).

The RLOD values meet the acceptability limit, which is 2.5 for unpaired studies, for all categories tested.

The alternative One Broth One Plate - *Salmonella* detection method is selective and specific. There were no differences observed between the two latex kits.

5 Interlaboratory Study

5.1 General Overview

In this collaborative study, one food type, dry dog food was evaluated. The matrix was obtained from a local retailer and screened negative for the presence of *Salmonella* spp. by the ISO 6579-1:2017reference method. The matrix was artificially contaminated with a lyophilized culture of *Salmonella* Typhimurium ATCC 14028 at two inoculation levels: a high inoculation level of approximately 2-5 colony-forming units (CFU)/test portion and a low inoculation level of approximately 0.2-2 CFU/test portion. A set of uninoculated control test portions (0 CFU/test portion) were also included.

The OBOP-S method and ISO 6579-1:2017 share a different pre-enrichment for this food type, therefore the study was designed using unpaired samples. A total of 48 samples were evaluated per collaborator, 24 for the reference method and 24 for the alternative method. Within each sample set were 8 replicate test portions from each of the three inoculation levels. A total of 15 collaborators from 15 locations were solicated, with 13 collaborators submitting data. One participant was not able to participate due to the shipment being stuck in customs and was unable to set up samples in a timely manner and another participant dropped out before the study was set to initiate analysis. Collaborators were also sent a test portion for determining the aerobic bacteria count (APC) of the dry pet food. Table 14 provides the results of the APC analysis for each collaborator. The average APC result obtained by the collaborators was 1.5×10^2 CFU/g with low and high data points of 3.0×10^1 CFU/g and 6.0×10^2 CFU/g.

Table 14: Results of the Background Microflora Evaluation

Collaborator	APC Results (CFU/g)	Collaborator	APC Results (CFU/g)
1	1.2×10^2	9	2.1×10^2
2	1.2×10^2	10	4.0×10^1
3	4.0×10^1	11	8.0×10^1
4	1.4×10^2	12	1.0×10^2
5	6.0×10^2	13	3.4×10^2
6	3.0×10^1	14	Did not participate
7	1.0×10^2	15	Did not participate
8	7.0×10^1	16 (Q Labs)	1.2×10^2

5.2 Preparation of Inocula and Test Portions

The *Salmonella* Typhimurium ATCC 14028 isolate used in this evaluation was lyophilized prior to inoculation. The culture was propagated onto Tryptic Soy Agar with 5% Sheep Blood (SBA) from a Q Laboratories frozen stock culture stored at -70°C. To prepare the culture for lyophilization, a single, well isolated colony from SBA was transferred into brain heart infusion (BHI) broth and incubated at 37 ± 2 °C

for 18-24 hours. The culture was diluted in a sterile cryoprotectant, reconstituted 10% non-fat dry milk (NFDM), and freeze dried for 48-72 hours. A bulk lot of the test matrix was inoculated with the culture at a high level expected to yield all positive results. An aliquot of the high-level inoculum was further mixed with uninoculated dry pet food to produce the low-level inoculum. After inoculation, the matrix was held for a minimum of 2 weeks at ambient temperature (20 - 25°C). The inoculated test product was packaged into separate 25 g samples in sterile Whirl-Pak® bags and shipped to the collaborators.

5.3 Test Portion Distribution

Samples were inoculated on Monday (May 4, 2020) and were labeled with a randomized, blind-coded 3-digit number affixed to the sample container. Test portions were shipped on a Monday (May 12, 2020) via overnight delivery according to the Category B Dangerous Goods shipment regulations set forth by the International Air Transport Association (IATA). Upon receipt, samples were held by the collaborating laboratory at ambient temperature (20-25°C) until the following Monday (May 18, 2020) when analysis was initiated.

In addition to each of the test portions and APC sample, collaborators received a data logger. Data loggers were programmed to monitor the temperature of the shipment to ensure it did not fall outside the range of 18-25°C. Participants were instructed to send the data file from the logger to the Expert Lab upon receipt of the samples. Results from the temperature probes from each collaborator are presented in Table 15.

Table 15: Temperature Records for Collaborator Shipments

Collaborator	Temperature Record (°C)	Collaborator	Temperature Record (°C)
1	27.1	9	24.6
2	24.7	10	22.7
3	16.6	11	18.1
4	19.0	12	20.3
5	16.4	13	14.6
6	10.6	14[1]	Did not participate
7	18.0	15[2]	Did not participate
8	20.1	16 (Q Labs)	21.4

1. The collaborator dropped out after samples were shipped.
2. The collaborator did not recieve samples, the shipment was delayed in customs.

5.4 Stability of Test Portions

Prior to shipping test portions, the stability of the inoculum in the matrix had been verified by the Expert Lab by confirming the viability of ten replicates of a bulk lot of the inoculated food type at 3, 7 and 10 days. Results fom the stability testing are presented in Table 16.

Table 16: Stability and Inoculation Results

Day of Analysis	Alternative Method Presumptive Result			Alternative Method Confirmed Result			Reference Method		
	L0	L1	L2	L0	L1	L2	L0	L1	L2
Day 3	0	4	8	0	4	8	0	3	8
Day 7	0	6	8	0	6	8	0	5	8
Day 10	0	5	8	0	5	8	0	5	8

5.5 Inoculum Levels

The inoculation level for each level are presented below in Table 17.

Table 17: Contamination Levels

Contamination level	Number of samples	True Count/25 g
L0	0	/
L1	8	1.2
L2	8	11.4

5.6 Results

Table 18 summarizes the collaborative study results for each participant. For each level (L0, L1, L2) 8 unpaired test portions were evaluted by each collaborator. Results for the raw data can be found in Appendix H.

Table 18: Summary of ILS Results

Collaborator	Alternative Method Presumptive Result			Alternative Method Confirmed Result			Reference Method		
	L0	L1	L2	L0	L1	L2	L0	L1	L2
1	0	4	8	0	4	8	0	5	8
2	0	6	8	0	6	8	0	4	8
3	0	3	8	0	3	8	0	4	8
4	0	4	8	0	4	8	0	4	8
5	0	5	8	0	5	8	0	5	8
6	0	5	8	0	5	8	0	3	8
7	0	4	8	0	4	8	0	5	8
8	0	3	8	0	3	8	0	3	8
9	0	6	8	0	6	8	0	6	8
10	0	5	8	0	5	8	0	4	8
11	0	4	8	0	4	8	0	4	8
12	0	5	8	0	5	8	0	6	8
13	0	5	8	0	5	8	0	8	8
14	/	/	/	/	/	/	/	/	/
15	/	/	/	/	/	/	/	/	/
Total	0	59	104	0	59	104	0	61	104

The Expert Lab analyzed a set of test portions on the day of the ILS shipment and a second set on the day of testing initiation. Table 19 provides the results from the quality control testing performed by the Expert Lab.

Table 19: Summary of Expert Laboratory Results

Day of Analysis	Alternative Method Presumptive Result			Alternative Method Confirmed Result			Reference Method		
	L0	L1	L2	L0	L1	L2	L0	L1	L2
Day of ILS Analysis	0	5	8	0	5	8	0	4	8

5.7 Calculation of Specificity Percentage

The specificity of the reference and alternative method are calculated using level L0. These values are obtained from the following equations, where N_ is the total number of tests at L0, and P_0 and CP_0 are the number of false positive results with the uninoculated controls.

$$SP_{ref} = \left(1 - \left(\frac{P_0}{N\_}\right)\right) x\ 100\ \% = \qquad SP_{alt} = \left(1 - \left(\frac{CP_0}{N\_}\right)\right) x\ 100\ \% =$$

A 100.0% specificity was obtained for the reference method and 100.0% specificity for the alternative method.

5.8 Calculation of Sensitivity (SEalt, SEref), relative trueness (RT) and false positive ration for the alternative method (FPR)

From the data obtained in the ILS, fractional positive results were obtained for the low inoculation level (L1). This level was used for the calculation. The data used for the calculation is presented in Table 20 below

Table 20: Summary of agreements and deviations for the ILS for L1

	Reference Method Positive (R+)	Reference Method Negative (R-)
Alternative Method Positive (A+)	Positive Agreement (+/+) 53	Positive Deviation (-/+) 6
Alternative Method Negative (A-)	Negative Deviation (+/-) 8	Negative Agreement (-/-) 37

Using the values in Table 18, the sensitivity of the reference and alternative methods were determined, along with relative trueness and false positive rate. Calculations for each statistic is provided below. Additionally, the requirement of fractional positive

results was obtained for both the alternative and reference method. A summary of results in presented in Table 21.

Figure 1: Calculation for the Sensitivity of the Alternative Method

$$SE_{alt} = \frac{(PA+PD)}{(PA+PD+ND)} \; x\; 100\% =$$

Figure 2: Calculation for the Sensitivity of the Reference Method

$$SE_{ref} = \frac{(PA+ND)}{(PA+PD+ND)} \; x\; 100\% =$$

Figure 3: Calculation for the Relative Trueness

$$RT = \frac{(PA+NA)}{N} \; x\; 100\% =$$

Figure 4: Calculation for the False Positive Rate of the Alternative Method

$$FPR = \frac{FP}{NA} \; x\; 100\% =$$

Table 21: Summary of Statistical Analysis of the ILS Study

Sensitivity for the Alternative Method	88.06%
Sensitivity for the Reference Method	91.04%
Relative Trueness	86.54%
False Positive Ratio for the Alternative Method	0.0

5.8 Interpretation of data

For an unpaired study, the difference between (ND – PD) at L1 shall not be higher than the AL. The AL is defined as [(ND-PD)max] and is calculated using the following equations and the sum of (ND+PD) are calculated for the level where fractional recovery was obtained (L_1). The values found for (ND – PD) and (ND + PD) shall not be higher than the acceptability limits (AL).

$$(p+)_{\mathrm{ref}} = \frac{P_x}{N_x}$$

Where

P_X is the number of samples with a positive result obtained with the reference method at the fractional level for all collaborators

N_X is the number of samples tested at the fractional level with the reference method by all collaborators

$$(p+)_{\text{alt}} = \frac{CP_x}{N_x}$$

Where

CP_X is the number of samples with a confirmed positive result obtained with the alternative method at the fractional level for all collaborators

N_X is the number of samples tested at the fractional level with the alternative method by all collaborators

$$(\text{ND-PD})_{\max} = \sqrt{3N_x \times \left((p+)_{\text{ref}} + (p+)_{\text{alt}} - 2\left((p+)_{\text{ref}} \times (p+)_{\text{alt}}\right)\right)}$$

Where

N_X is the number of samples tested at the fractional level with the reference method by all collaborators

The results of the alternative method when compared to the AL are presented in Table 22.

Table 22: Evaluation of the AL for the alternative method

N_X	104
$(p+)_{ref}$	0.6
$(p+)_{alt}$	0.6
$(ND\text{-}PD)_{max}$	12
(ND – PD)	2

The value obtained during the ILS is lower than the AL as determined by $(ND\text{-}PD)_{max}$ indicated the alternative method.

5.9 Evaluation of the RLOD between Laboratories

The RLOD for the ILS was calculated using the available Excel spread sheet: RLOD ILS 16140-2 Annex F, ver 1: 28-06-2017 (http://standards.iso.org/iso/16140) as listed

in ISO 1614-2:2016. These results are provided for informational purposes only. See Tables 23 and 24 for statistical results of the ILS.

Table 23: ILS Results by Method

Method	Method Effect	Log Method Effect	SD of log Method Effect	$LOD_{50\%}$ = 50% limit of detection in CFU per sample size			$LOD_{95\%}$ = 95% limit of detection in CFU per sample size		
				Detection Limt	Lower Conf. Limit	Upper Conf. Limit	Detection Limit	Lower Conf. Limit	Upper Conf. Limit
Reference	0.738	-0.303	0.130	0.94	0.72	1.22	4.06	3.13	5.26
Alternative	0.702	-0.354	0.131	0.99	0.76	1.28	4.27	3.28	5.55
Conclusion	The methods are <u>not significantly</u> different at the 5% significance level (change in deviance of the model with method effects to the null model D_{method} = 0.08 with 1 degree of freedom, p-value 0.78).								
	The relative limit of detection (RLOD) of the alternative method, as compared to the reference method, is 0.9 with a 90% confidence interval of 0.78 - 1.42.								

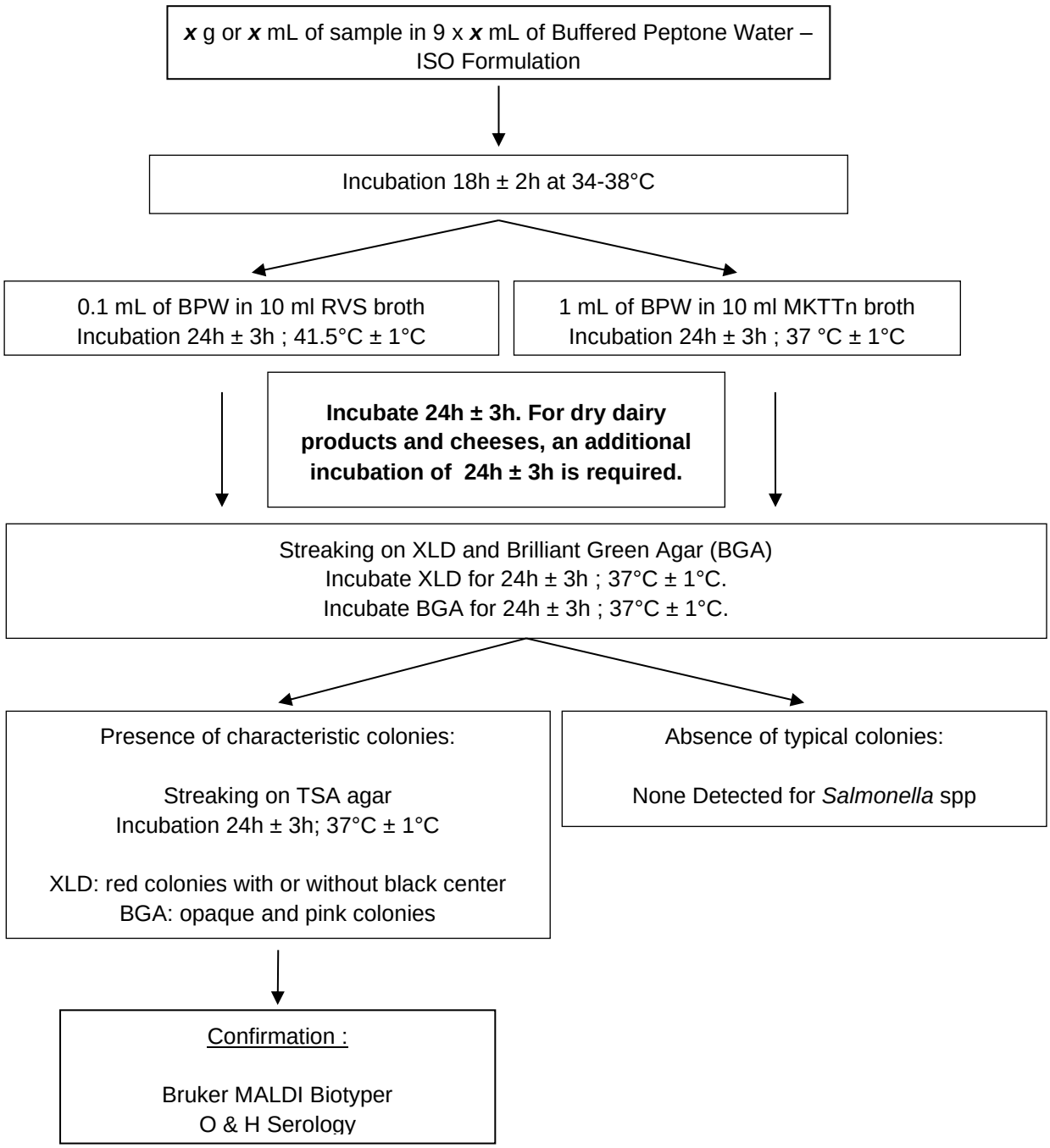
Table 24: ILS Results by Laboratories

Laboratory Number	Lab Effect	Log Lab Effect	SD of log Lab Effect
1	0.693	-0.367	0.335
2	0.819	-0.200	0.327
3	0.501	-0.691	0.338
4	0.588	-0.532	0.340
5	0.819	-0.200	0.327
6	0.588	-0.532	0.340
7	0.693	-0.367	0.335
8	0.431	-0.843	0.330
9	1.155	0.144	0.312
10	0.693	-0.367	0.335
11	0.588	-0.532	0.340
12	0.970	-0.031	0.318
13	1.395	0.333	0.311
Combined Results	0.720	-0.329	0.092
Conclusion	The probabilities of detection (POD) of the laboratories are not significantly different at the 5% significance level (change in deviance of the model with laboratory effects to the null model Dlab = 11.86 with 12 degrees of freedom, p-value 0.46).		

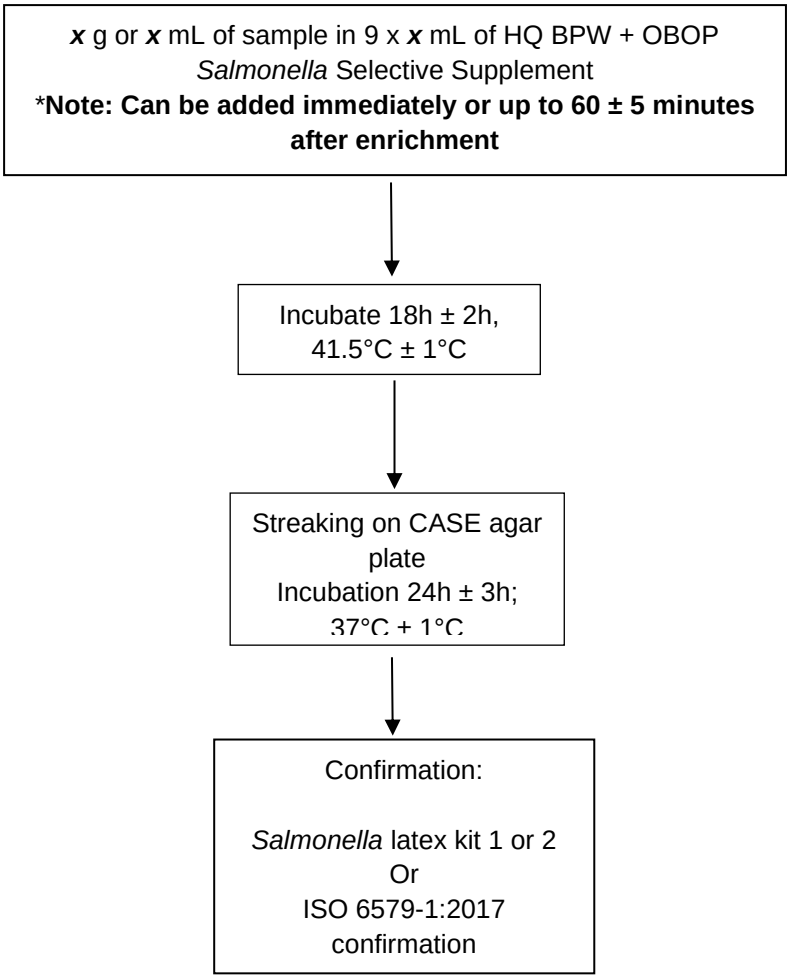
5.10 Conclusion of the Interlaboratory study

The data obtained during the ILS meets the criteria set forth in ISO 16140-2:2016 and indicates that the alternative method, the Neogen OBOP-S is considered equivalent to the ISO 6579:2017 reference method.

ANNEX A: Flow diagram of the reference method



ANNEX B: Flow diagram of the alternative method



ANNEX C: Method Technical Product Information

See supporting documentation submitted separately.

ANNEX D: Artificial contaminations

Category	Type	Item	Sample nº	Species and subspecies	Serovar	Source and Strain	Origin	Injury Protocol	Injury Evaluation (Log10)	Inoculation (CFU/ Sample)	Alternative Method Result	Reference Method Result
Meat products	Raw Meat	Ground Beef	1	*S. enterica* subsp. *enterica*	Anatum	ATCC[1] 9270	Pork liver	48 h at 5 ± 3°C	/	4.1	+	+
		Beef Cubed Steak	13	*S. enterica* subsp. *enterica*	Anatum	ATCC 9270	Pork liver	48 h at 5 ± 3°C	/	4.1	+	+
		Maple Pork Sausage Patties	16	*S. enterica* subsp. *enterica*	Anatum	ATCC 9270	Pork liver	48 h at 5 ± 3°C	/	4.1	+	+
		Angus Beef - 85% 15%	19	*S. enterica* subsp. *enterica*	Anatum	ATCC 9270	Pork liver	48 h at 5 ± 3°C	/	4.1	+	+
		Angus Beef - 80% 20%	20	*S. enterica* subsp. *enterica*	Anatum	ATCC 9270	Pork liver	48 h at 5 ± 3°C	/	4.1	+	+
	Raw Poultry	Kroger - Ground Turkey	1	*S. enterica* subsp. *enterica*	Indiana	NCTC[2] 11304	Turkey	48 h at 5 ± 3°C	/	3.3	+	+
		Whole Chicken	3	*S. enterica* subsp. *enterica*	Indiana	NCTC 11304	Turkey	48 h at 5 ± 3°C	/	3.3	+	+
		Honey Suckle White - Ground Turkey	7	*S. enterica* subsp. *enterica*	Indiana	NCTC 11304	Turkey	48 h at 5 ± 3°C	/	3.3	+	+
		Kroger - Ground Turkey	9	*S. enterica* subsp. *enterica*	Indiana	NCTC 11304	Turkey	48 h at 5 ± 3°C	/	3.3	+	+
		Boneles Skinless Thighs	17	*S. enterica* subsp. *enterica*	Indiana	NCTC 11304	Turkey	48 h at 5 ± 3°C	/	3.3	+	+

[1]ATCC-American Type Culture Collection, [2]NCTC-National Collection of Type Cultures

Category	Type	Item	Sample nº	Species and subspecies	Serovar	Source and Strain	Origin	Injury Protocol	Injury Evaluation (Log10)	Inoculation (CFU/ Sample)	Alternative Method Result	Reference Method Result
Meat products	Delicatessen /Fermented and cured meat products	Beef Snack Bites	3	*S. enterica* subsp. *enterica*	Enteritidis	USDA[1] ARS12	Poultry Litter	Heat treatment (50 - 55°C for 10-15 minutes)	0.56	5.0	+	+
		Old World Pepperoni - Deli Sliced	5	*S. enterica* subsp. *enterica*	Enteritidis	USDA ARS12	Poultry Litter	Heat treatment (50 - 55°C for 10-15 minutes)	0.56	5.0	+	+
		Sliced Pepperoni	7	*S. enterica* subsp. *enterica*	Enteritidis	USDA ARS12	Poultry Litter	Heat treatment (50 - 55°C for 10-15 minutes)	0.56	5.0	+	+
		Uncured Hard Salami	8	*S. enterica* subsp. *enterica*	Enteritidis	USDA ARS12	Poultry Litter	Heat treatment (50 - 55°C for 10-15 minutes)	0.56	5.0	+	+
		Original Smokehouse Beef Pork Strip	10	*S. enterica* subsp. *enterica*	Enteritidis	USDA ARS12	Poultry Litter	Heat treatment (50 - 55°C for 10-15 minutes)	0.56	5.0	+	+
		Uncured Sopressata Dry Sausage	13	*S. enterica* subsp. *enterica*	Cubana	UPENN[2] STS 24	Not Available	Heat treatment (50 - 55°C for 10-15 minutes)	0.75	3.3	+	+
		Hot Uncured Capocollo	15	*S. enterica* subsp. *enterica*	Cubana	UPENN STS 24	Not Available	Heat treatment (50 - 55°C for 10-15 minutes)	0.75	3.3	+	+
		Deli Virginia Ham	16	*S. enterica* subsp. *enterica*	Cubana	UPENN STS 24	Not Available	Heat treatment (50 - 55°C for 10-15 minutes)	0.75	3.3	+	+
		Turkey Pepperoni	18	*S. enterica* subsp. *enterica*	Cubana	UPENN STS 24	Not Available	Heat treatment (50 - 55°C for 10-15 minutes)	0.75	3.3	+	+
		Italian Mortadella	20	*S. enterica* subsp. *enterica*	Cubana	UPENN STS 24	Not Available	Heat treatment (50 - 55°C for 10-15 minutes)	0.75	3.3	+	+

[1]USDA-United States Department of Agriculture Culture Collection, [2]UPENN-University of Pennsylvania Culture Collection

Category	Type	Item	Sample nº	Species and subspecies	Serovar	Source and Strain	Origin	Injury Protocol	Injury Evaluation (Log10)	Inoculation (CFU/ Sample)	Alternative Method Result	Reference Method Result
Dairy Products	Dehydrated Milk	Meijer Non-Fat Dried Milk (NFDM)	1	*S. enterica* subsp. *enterica*	Infantis	ATCC[1] 51741	Pasta	Lyophilized culture: 2 week hold at 20-25ºC	0.55	2.1	+	+
		Meijer NFDM	4	*S. enterica* subsp. *enterica*	Infantis	ATCC 51741	Pasta	Lyophilized culture: 2 week hold at 20-25ºC	0.55	2.1	+	-
		Meijer Infant Formula - Gentle Triple Care	7	*S. enterica* subsp. *enterica*	Infantis	ATCC 51741	Pasta	Lyophilized culture: 2 week hold at 20-25ºC	0.55	2.1	+	+
		Nestle Nido Fortificada Infant Formula	10	*S. enterica* subsp. *enterica*	Infantis	ATCC 51741	Pasta	Lyophilized culture: 2 week hold at 20-25ºC	0.55	2.1	+	+
		Simple Truth Whey Powder - Vanilla	13	*S. enterica* subsp. *enterica*	Infantis	ATCC 51741	Pasta	Lyophilized culture: 2 week hold at 20-25ºC	0.55	2.1	+	+
		Comfort's Infant Formula - Gentle Triple Care	15	*S. enterica* subsp. *enterica*	Neasden	QL[2] 024.4	Clinical isolate	Lyophilized culture: 2 week hold at 20-25ºC	0.69	2.2	+	+
		Comfort's Infant Formula - Infant	17	*S. enterica* subsp. *enterica*	Neasden	QL 024.4	Clinical isolate	Lyophilized culture: 2 week hold at 20-25ºC	0.69	2.2	+	+
		Comfort's Infant Formula - Added Rice Starch	18	*S. enterica* subsp. *enterica*	Neasden	QL 024.4	Clinical isolate	Lyophilized culture: 2 week hold at 20-25ºC	0.69	2.2	+	+
		Skimmed Milk Powder	22	*S. enterica* subsp. *enterica*	Braenderup	QL 052616.29	Non-fat Dry Milk	Lyophilized culture: 2 week hold at 20-25ºC	0.51	4.7	+	+
		Instant Non-Fat Dry Milk	23	*S. enterica* subsp. *enterica*	Braenderup	QL 052616.29	Non-fat Dry Milk	Lyophilized culture: 2 week hold at 20-25ºC	0.51	4.7	+	+
		Organic Milk Powder	24	*S. enterica* subsp. *enterica*	Braenderup	QL 052616.29	Non-fat Dry Milk	Lyophilized culture: 2 week hold at 20-25ºC	0.51	4.7	+	+
	Pasteurized Products	Kroger Creamer - Chocolate	1	*S. enterica* subsp. *enterica*	Urbana	UPENN[3] STS 110	Not Available	Heat treatment (50 - 55°C for 10-15 minutes)	0.62	4.9	+	+
		Kroger Sour Cream - Original	6	*S. enterica* subsp. *enterica*	Urbana	UPENN STS 110	Not Available	Heat treatment (50 - 55°C for 10-15 minutes)	0.62	4.9	+	+
		Kroger Low Moisture Mozzarella String	9	*S. enterica* subsp. *enterica*	Menden	ATCC 15992	Feces	Heat treatment (50 - 55°C for 10-15 minutes)	0.68	4.1	+	+
		Kroger Cheese - Monterey Jack	11	*S. enterica* subsp. *enterica*	Menden	ATCC 15992	Feces	Heat treatment (50 - 55°C for 10-15 minutes)	0.68	4.1	+	+
		Kroger Cheese - Mild Cheddar (Shredded)	12	*S. enterica* subsp. *enterica*	Menden	ATCC 15992	Feces	Heat treatment (50 - 55°C for 10-15 minutes)	0.68	4.1	+	+
		ReddiWip - Fat Free	19	*S. enterica* subsp. *enterica*	Menden	ATCC 15992	Feces	Heat treatment (50 - 55°C for 10-15 minutes)	0.68	4.1	+	+
		Simple Truth Organic Coffee Creamer - Vanilla	20	*S. enterica* subsp. *enterica*	Menden	ATCC 15992	Feces	Heat treatment (50 - 55°C for 10-15 minutes)	0.68	4.1	+	+
		2% Milk	21	*S. enterica* subsp. *enterica*	Abortusequi	FDA[5] 9842	Not Available	Heat treatment (50 - 55°C for 10-15 minutes)	0.71	5.4	+	+

[1]ATCC-American Type Culture Collection, [2]QL-Q Laboratories Culture Collection, [3]UPENN-University of Pennsylvania Culture Collection

Category	Type	Item	Sample nº	*Species and subspecies*	Serovar	Source and Strain	Origin	Injury Protocol	Injury Evaluation (Log10)	Inoculation (CFU/ Sample)	Alternative Method Result	Reference Method Result
Dairy Products	Raw Milk Products	Raw Cheese - Goat Cheese	1	*S. enterica* subsp. *enterica*	Krefeld	UPENN[1] STS 58	Not Available	48 h at 5 ± 3°C	/	2.7	+	+
		Raw Milk	6	*S. enterica* subsp. *enterica*	Krefeld	UPENN STS 58	Not Available	48 h at 5 ± 3°C	/	2.7	+	-
		Raw Cheese - Murray's Pecorino Romano	13	*S. enterica* subsp. *enterica*	Krefeld	UPENN STS 58	Not Available	48 h at 5 ± 3°C	/	2.7	+	+
		Raw Cheese - Murray's Parmigiano Reggiano	16	*S. enterica* subsp. *enterica*	Krefeld	UPENN STS 58	Not Available	48 h at 5 ± 3°C	/	2.7	+	+
Seafood	Raw and ready to cook fish and seafood	Sea Bass	3	S. enterica subsp. enterica	Krefeld	UPENN STS 58	Not Available	48 h at 5 ± 3°C	/	2.7	+	+
		Flounder	5	S. enterica subsp. enterica	Poona	NCTC[2] 4840	Infant Enteritis	48 h at 5 ± 3°C	/	3.9	+	+
		Atlantic Salmon	9	S. enterica subsp. enterica	Poona	NCTC 4840	Infant Enteritis	48 h at 5 ± 3°C	/	3.9	+	+
		Raw Catfish	21	S. enterica subsp. enterica	Alachua	UPENN STS 6	Not Available	48 h at 5 ± 3°C	/	5.3	+	+
	Ready-to eat, ready-to-reheat products	Solid White Albacore Tuna - In Water	1	S. enterica subsp. enterica	Newington	QL[3] 024.8	Clinical isolate	Heat treatment (50 - 55°C for 10-15 minutes)	0.53	3.4	+	+
		Alaskan Sockeye Red Salmon	2	S. enterica subsp. enterica	Newington	QL 024.8	Clinical isolate	Heat treatment (50 - 55°C for 10-15 minutes)	0.53	3.4	+	+
		Premium Whole Oysters	4	S. enterica subsp. enterica	Newington	QL 024.8	Clinical isolate	Heat treatment (50 - 55°C for 10-15 minutes)	0.53	3.4	+	+
		Mackerel	6	Salmonella bongori		NCTC 10946	Amphibian; frog	Heat treatment (50 - 55°C for 10-15 minutes)	0.61	2.6	+	+
		White Crab Meat	9	Salmonella bongori		NCTC 10946	Amphibian; frog	Heat treatment (50 - 55°C for 10-15 minutes)	0.61	2.6	+	+
		Solid White Albacore Tuna - In Water	12	Salmonella bongori		NCTC 10946	Amphibian; frog	Heat treatment (50 - 55°C for 10-15 minutes)	0.61	2.6	+	+
		Albacore White Tuna - In Water	17	Salmonella bongori		NCTC 10946	Amphibian; frog	Heat treatment (50 - 55°C for 10-15 minutes)	0.61	2.6	+	+
		Chunk White Albacore Tuna	19	Salmonella bongori		NCTC 10946	Amphibian; frog	Heat treatment (50 - 55°C for 10-15 minutes)	0.61	2.6	+	+
	Ready-to-cook foods	Fish Sticks	1	S. enterica subsp. enterica	Saintpaul	ATCC[4] 9712	Cystitis, Panama	48 h at 5 ± 3°C	/	2.9	+	+
		Lightly Battered Tilapia	3	S. enterica subsp. enterica	Saintpaul	ATCC 9712	Cystitis, Panama	48 h at 5 ± 3°C	/	2.9	+	+
		Tilapia Fish Stics	18	S. enterica subsp. enterica	Saintpaul	ATCC 9712	Cystitis, Panama	48 h at 5 ± 3°C	/	2.9	+	+
		Fish Sticks	20	S. enterica subsp. enterica	Saintpaul	ATCC 9712	Cystitis, Panama	48 h at 5 ± 3°C	/	2.9	+	+

[1]UPENN-University of Pennsylvania Culture Collection, [2]NCTC-National Collection of Type Cultures, [3]QL-Q Laboratories Culture Collection, [4]ATCC-American Type Culture Collection

Category	Type	Item	Sample nº	Species and subspecies	Serovar	Source and Strain	Origin	Injury Protocol	Injury Evaluation (Log10)	Inoculation (CFU/ Sample)	Alternative Method Result	Reference Method Result
Fruits and Vegetables	Fruits	Blueberries	1	S. enterica subsp. enterica	Muechen	ATCC[1] BAA-1594	Roma Tomatoes	48 h at 5 ± 3°C	/	2.3	+	+
		Honeydew	2	S. enterica subsp. enterica	Muechen	ATCC BAA-1594	Roma Tomatoes	48 h at 5 ± 3°C	/	2.3	+	+
	Vegetables	Salad Mix	1	S. enterica subsp. enterica	Muechen	ATCC BAA-1594	Roma Tomatoes	48 h at 5 ± 3°C	/	2.3	+	+
Egg products	Egg based preparation	Bacon & Sausage Toaster Scramble	3	S. enterica subsp. enterica	Newington	QL[2] 024.8	Clinical isolate	Heat treatment (50 - 55°C for 10-15 minutes)	0.53	3.4	+	+
		Meat Lover's Breakfast Bowl	7	S. enterica subsp. enterica	Newington	QL 024.8	Clinical isolate	Heat treatment (50 - 55°C for 10-15 minutes)	0.53	3.4	+	+
		Bacon Toasted Scrambles	11	S. enterica subsp. enterica	Abony	NCTC[3] 6017	Not Available	Heat treatment (50 - 55°C for 10-15 minutes)	0.63	4.7	+	+
		Bacon & Sausage Toaster Scramble	13	S. enterica subsp. enterica	Abony	NCTC 6017	Not Available	Heat treatment (50 - 55°C for 10-15 minutes)	0.63	4.7	+	+
		GV Veegies & Cheese Egg bites	16	S. enterica subsp. enterica	Abony	NCTC 6017	Not Available	Heat treatment (50 - 55°C for 10-15 minutes)	0.63	4.7	+	+
	Pasteurized liquid portions of egg	100% Liquid Egg White	2	S. enterica subsp. enterica	Abony	NCTC 6017	Not Available	Heat treatment (50 - 55°C for 10-15 minutes)	0.63	4.7	+	+
		Bob Evan's Egg Whites	3	S. enterica subsp. enterica	Abony	NCTC 6017	Not Available	Heat treatment (50 - 55°C for 10-15 minutes)	0.63	4.7	+	+
		Egg Beater's - Original	5	S. enterica subsp. enterica	Indica	NCTC 10458	Dessicated Coconut	Heat treatment (50 - 55°C for 10-15 minutes)	0.64	4.2	+	+
		No Break - Egg Whites	8	S. enterica subsp. enterica	Indica	NCTC 10458	Dessicated Coconut	Heat treatment (50 - 55°C for 10-15 minutes)	0.64	4.2	+	+
		Egg Beater's - Whole Eggs with Nisin	9	S. enterica subsp. enterica	Indica	NCTC 10458	Dessicated Coconut	Heat treatment (50 - 55°C for 10-15 minutes)	0.64	4.2	+	+
		100% Liquid Egg White	15	S. enterica subsp. enterica	Indica	NCTC 10458	Dessicated Coconut	Heat treatment (50 - 55°C for 10-15 minutes)	0.64	4.2	+	+
		Bob Evan's Egg Whites	16	S. enterica subsp. enterica	Indica	NCTC 10458	Dessicated Coconut	Heat treatment (50 - 55°C for 10-15 minutes)	0.64	4.2	+	+
		Egg Beater's - Southwestern Style	19	S. enterica subsp. enterica	Mbandaka	UPENN[4] STS66	Not Available	Heat treatment (50 - 55°C for 10-15 minutes)	0.53	3.4	+	+
		Egg Beater's - Whole Eggs	20	S. enterica subsp. enterica	Mbandaka	UPENN STS66	Not Available	Heat treatment (50 - 55°C for 10-15 minutes)	0.53	3.4	+	+

[1]ATCC-American Type Culture Collection, [2]QL-Q Laboratories Culture Collection, [3]NCTC-National Collection of Type Cultures, [4]UPENN-University of Pennsylvania Culture Collection

Category	Type	Item	Sample nº	Species and subspecies	Serovar	Source and Strain	Origin	Injury Protocol	Injury Evaluation (Log10)	Inoculation (CFU/ Sample)	Alternative Method Result	Reference Method Result
.Egg Products	Dehydrated egg products	Judees Whole Eggs Dried	2	S. enterica subsp. enterica	Newington	QL[1] 024.8	Clinical isolate	Lyophilized culture: 2 week hold at 20-25ºC	0.53	3.4	+	+
		Saratoga Farms Whole Egg Powder	5	S. enterica subsp. enterica	Newington	QL 024.8	Clinical isolate	Lyophilized culture: 2 week hold at 20-25ºC	0.53	3.4	+	+
		Augason Farms Dried Whole Egg Powder	6	S. enterica subsp. enterica	Newington	QL 024.8	Clinical isolate	Lyophilized culture: 2 week hold at 20-25ºC	0.53	3.4	+	+
		Legacy Powder Whole Egg	13	S. enterica subsp. enterica	Pullorum	ATCC[2] 13036	Egg	Lyophilized culture: 2 week hold at 20-25ºC	0.67	3.0	+	+
		Bakers Authority Egg White Powder	14	S. enterica subsp. enterica	Pullorum	ATCC 13036	Egg	Lyophilized culture: 2 week hold at 20-25ºC	0.67	3.0	+	+
		Julian Bakery Ehh White Protein	18	S. enterica subsp. enterica	Pullorum	ATCC 13036	Egg	Lyophilized culture: 2 week hold at 20-25ºC	0.67	3.0	+	+
		Rainy Day Foods Whole Eggs	19	S. enterica subsp. enterica	Pullorum	ATCC 13036	Egg	Lyophilized culture: 2 week hold at 20-25ºC	0.67	3.0	+	+
		AmericanSpice.com Whole Egg Powder	20	S. enterica subsp. enterica	Pullorum	ATCC 13036	Egg	Lyophilized culture: 2 week hold at 20-25ºC	0.67	3.0	+	+
		Egg White Powder	21	S. enterica subsp. enterica	Montevideo	ATCC[3] 8387	Not Available	Lyophilized culture: 2 week hold at 20-25ºC	0.50	5.8	+	+
		Emergency Egg Powder	22	S. enterica subsp. enterica	Montevideo	ATCC[3] 8387	Not Available	Lyophilized culture: 2 week hold at 20-25ºC	0.50	5.8	+	+

[1]QL-Q Laboratories Culture Collection, [2]ATCC-American Type Culture Collection

Category	Type	Item	Sample nº	Species and subspecies	Serovar	Source and Strain	Origin	Injury Protocol	Injury Evaluation (Log10)	Inoculation (CFU/ Sample)	Alternative Method Result	Reference Method Result
Feed	Dry	Milk Bone Trail Mix	1	S. enterica subsp. enterica	Typhimurium	QL[1] 11007-2	Pet Food	Lyophilized culture: 2 week hold at 20-25ºC	0.67	1.7	+	+
		Puppy (Chicken)	3	S. enterica subsp. enterica	Typhimurium	QL 11007-2	Pet Food	Lyophilized culture: 2 week hold at 20-25ºC	0.67	1.7	+	-
		Indoor Cat (Chicken & Turkey)	8	S. enterica subsp. enterica	Typhimurium	QL 11007-2	Pet Food	Lyophilized culture: 2 week hold at 20-25ºC	0.67	1.7	+	+
		Whole Corn	17	S. enterica subsp. enterica	Typhimurium	QL 11007-2	Pet Food	Lyophilized culture: 2 week hold at 20-25ºC	0.67	1.7	+	+
		Alfalfa Pellets	18	S. enterica subsp. enterica	Typhimurium	QL 11007-2	Pet Food	Lyophilized culture: 2 week hold at 20-25ºC	0.67	1.7	+	+
		Equine Grain Feed	21	S. enterica subsp. enterica	Ohio	UPENN STS 81	Food Poisoning	Lyophilized culture: 2 week hold at 20-25ºC	0.52	6.1	+	+
	Wet	Chicken & Salmon in Broth	1	S. enterica subsp. arizonae		QL 11007-4	Veterinary	Heat treatment (50 - 55°C for 10-15 minutes)	0.79	2.3	+	+
		Hearty Beef Stew	4	S. enterica subsp. arizonae		QL 11007-4	Veterinary	Heat treatment (50 - 55°C for 10-15 minutes)	0.79	2.3	+	+
		Bella (Pate Chicken & Smoked Bacon flavor)	7	S. enterica subsp. arizonae		QL 11007-4	Veterinary	Heat treatment (50 - 55°C for 10-15 minutes)	0.79	2.3	+	-
		Open Range (Chicken & Beef in hearty gravy)	11	S. enterica subsp. arizonae		QL 11007-4	Veterinary	Heat treatment (50 - 55°C for 10-15 minutes)	0.79	2.3	+	+
		Hearty Gourmet (Meaty Morsels - Tuna entrée)	15	S. enterica subsp. arizonae		QL 11007-4	Veterinary	Heat treatment (50 - 55°C for 10-15 minutes)	0.79	2.3	+	+
		Salmon recipe cuts in gravy	18	S. enterica subsp. enterica	Mbandaka	UPENN[2] STS66	Not Available	Heat treatment (50 - 55°C for 10-15 minutes)	0.53	3.4	+	+
		Pate - Turkey recipe	19	S. enterica subsp. enterica	Mbandaka	UPENN STS66	Not Available	Heat treatment (50 - 55°C for 10-15 minutes)	0.53	3.4	+	+
		Chicken and Shrimp Pate	21	S. enterica subsp. enterica	Mbandaka	UPENN STS66	Not Available	Heat treatment (50 - 55°C for 10-15 minutes)	0.64	4.3	+	+
		Chicken and Greens Pate	22	S. enterica subsp. enterica	Mbandaka	UPENN STS66	Not Available	Heat treatment (50 - 55°C for 10-15 minutes)	0.64	4.3	+	+
	Ingredients	Grean Beans	9	S. enterica subsp. enterica	Galiema	QL 024.2	Environmental isolate	48 h at 5 ± 3°C	/	4.4	+	+
		Wheat Grain	21	S. enterica subsp. enterica	Ohio	UPENN STS 81	Food Poisoning	48 h at 5 ± 3°C	/	3.3	+	+
		Rice Grain	22	S. enterica subsp. enterica	Ohio	UPENN STS 81	Food Poisoning	48 h at 5 ± 3°C	/	3.3	+	+

[1]QL-Q Laboratories Culture Collection, [2]UPENN-University of Pennsylvania Culture Collection

Category	Type	Item	Sample nº	Species and subspecies	Serovar	Source and Strain	Origin	Injury Protocol	Injury Evaluation (Log10)	Inoculation (CFU/ Sample)	Alternative Method Result	Reference Method Result
Environmental Samples	Surfaces	Swab (food industry)	6	S. enterica subsp. enterica	Galiema	QL[1] 024.2	Environmental isolate	48 h at 5 ± 3°C	/	4.4	+	+
		Sponge (food industry)	9	S. enterica subsp. enterica	Galiema	QL 024.2	Environmental isolate	48 h at 5 ± 3°C	/	4.4	+	+
		Sponge (food industry)	13	S. enterica subsp. enterica	Galiema	QL 024.2	Environmental isolate	48 h at 5 ± 3°C	/	4.4	+	+
		Swab (food industry)	16	S. enterica subsp. enterica	Galiema	QL 024.2	Environmental isolate	48 h at 5 ± 3°C	/	4.4	+	+
	Process Water	Process Water: Location 1 (food industry)	2	S. enterica subsp. enterica	Abaetetuba	ATCC[2] 35640	Creek water	Heat treatment (50 - 55°C for 10-15 minutes)	0.66	1.3	+	+
		Process Water: Location 1 (food industry)	3	S. enterica subsp. enterica	Abaetetuba	ATCC 35640	Creek water	Heat treatment (50 - 55°C for 10-15 minutes)	0.66	1.3	+	+
		Process Water: Location 2 (food industry)	6	S. enterica subsp. enterica	Abaetetuba	ATCC 35640	Creek water	Heat treatment (50 - 55°C for 10-15 minutes)	0.66	1.3	+	+
		Process Water: Location 2 (food industry)	7	S. enterica subsp. enterica	Abaetetuba	ATCC 35640	Creek water	Heat treatment (50 - 55°C for 10-15 minutes)	0.66	1.3	-	+
		Process Water: Location 2 (food industry)	8	S. enterica subsp. enterica	Abaetetuba	ATCC 35640	Creek water	Heat treatment (50 - 55°C for 10-15 minutes)	0.66	1.3	+	+
		Process Water: Location 3 (food industry)	11	S. enterica subsp. diarizonae		QL 011414.1	Environmental isolate	Heat treatment (50 - 55°C for 10-15 minutes)	0.53	4.1	+	+
		Process Water: Location 3 (food industry)	12	S. enterica subsp. diarizonae		QL 011414.1	Environmental isolate	Heat treatment (50 - 55°C for 10-15 minutes)	0.53	4.1	+	+
		Process Water: Location 3 (food industry)	15	S. enterica subsp. diarizonae		QL 011414.1	Environmental isolate	Heat treatment (50 - 55°C for 10-15 minutes)	0.53	4.1	+	+
		Process Water: Location 4 (food industry)	16	S. enterica subsp. diarizonae		QL 011414.1	Environmental isolate	Heat treatment (50 - 55°C for 10-15 minutes)	0.53	4.1	+	+
		Process Water: Location 4 (food industry)	20	S. enterica subsp. diarizonae		QL 011414.1	Environmental isolate	Heat treatment (50 - 55°C for 10-15 minutes)	0.53	4.1	+	+

[1]QL-Q Laboratories Culture Collection, [2]ATCC-American Type Culture Collection

ANNEX E: Raw data sensitivity study

Raw Meat													
Item Type	Sample nº	Reference Method: ISO 6579-1:2017				Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]							
						Presumptive			Confirmation				
		XLD	BGA	Identification	Final Result	CASE Agar	Confirmation Procedures[2]	Final Result	XLD	BGA	Identification	Final Result	Agreement
Ground Beef - 73% 27% (Exp: 12/12/2019)	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Pork Ribs	2*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Chorizo Sausage	3	-	-	/	-	-	/	-	-	-	/	-	NA
Ground Beef - 73% 27% (Exp: 23/12/2019)	4	-	-	/	-	-	/	-	-	-	/	-	NA
Ground Beef – 80% 20%	5	-	-	/	-	-	/	-	-	-	/	-	NA
Ground Beef - 93% 7%	6	-	-	/	-	-	/	-	-	-	/	-	NA
Natural Ground Beef	7*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Country Pork	8*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sweet Italian	9	-	-	/	-	-	/	-	-	-	/	-	NA
Pork Loin Boneless Country Ribs	10	-	-	/	-	-	/	-	-	-	/	-	NA
Diced Pork	11*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Beef Shaved Steak	12	-	-	/	-	-	/	-	-	-	/	-	NA
Beef Cubed Steak	13	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Beef for Stew	14	-	-	/	-	-	/	-	-	-	/	-	NA
Traditional Pork Sausage Links	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Pork Sausage Patties	16	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Ground Pork	17	-	-	/	-	-	/	-	-	-	/	-	NA
Angus Beef - 90% 10%	18	-	-	/	-	-	/	-	-	-	/	-	NA
Angus Beef - 85% 15%	19	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Angus Beef - 80% 20%	20	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Ground Lamb	21	-	-	/	-	-	/	-	-	-	/	-	NA
Ground Bison	22	-	-	/	-	-	/	-	-	-	/	-	NA

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[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Raw Poultry													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Ground Turkey Exp: 10/12/2019	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Whole Fryin Chicken	2*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Whole Chicken	3	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Chicken Gizzards and Hearts	4*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Turkey Breast Cutlets	5*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Natural Ground Turkey Breast	6*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
White - Ground Turkey	7	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Turkey Patties	8*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Ground Turkey Exp: 30/12/2019	9	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Chicken Livers	10*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Chicken Breast Tenderloins	11	-	-	/	-	-	/	-	-	-	/	-	NA
Chicken Breasts	12	-	-	/	-	-	/	-	-	-	/	-	NA
Chicken Drumsticks	13*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Chicen Breast Tenders	14	-	-	/	-	-	/	-	-	-	/	-	NA
Ground Chicken Breast	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Ground Turkey	16*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Boneles Skinless Thighs	17	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Split Chicken Breasts	18	-	-	/	-	-	/	-	-	-	/	-	NA
Wing Drumlettes	19*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Chicen Wings	20	-	-	/	-	-	/	-	-	-	/	-	NA

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[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Deli-Fermented-Cured Meats													
Item Type	Sample nº	Reference Method: ISO 6579-1:2017				Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]							
						Presumptive			Confirmation				Agreement
		XLD	BGA	Identification	Final Result	CASE Agar	Confirmation Procedures[2]	Final Result	XLD	BGA	Identification	Final Result	
Prosciutto	1	-	-	/	-	-	/	-	-	-	/	-	NA
Genoa Salami - Cracker Cut	2	-	-	/	-	-	/	-	-	-	/	-	NA
Beef Snack Bites	3	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Honey Ham GNG	4	-	-	/	-	-	/	-	-	-	/	-	NA
Pepperoni - Deli Sliced	5	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Pepperoni - Cracker Cut	6	-	-	/	-	-	/	-	-	-	/	-	NA
Sliced Pepperoni	7	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Uncured Hard Salami	8	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Oven Roasted Turkey Breast	9	-	-	/	-	-	/	-	-	-	/	-	NA
Original Smokehouse Beef Pork Strip	10	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Original Beef Jerkey	11	-	-	/	-	-	/	-	-	-	/	-	NA
Hard Salami	12	-	-	/	-	-	/	-	-	-	/	-	NA
Uncured Sopressata Dry Sausage	13	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Pepperoni - Sandwich Style	14	-	-	/	-	-	/	-	-	-	/	-	NA
Hot Uncured Capocollo	15	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Deli Virginia Ham	16	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
DELX Club Bologna	17	-	-	/	-	-	/	-	-	-	/	-	NA
Turkey Pepperoni	18	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Traditional Pepperoni	19	-	-	/	-	-	/	-	-	-	/	-	NA
Italian Mortadella	20	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Boar's Head – Deli Turkey	21	-	-	/	-	-	/	-	-	-	/	-	NA
Boar's Head – Deli Ham	22	-	-	/	-	-	/	-	-	-	/	-	NA

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[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.

Dehydrated Milk														
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**								
						Presumptive			**Confirmation**					**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**		
Non-Fat Dried Milk (NFDM) Exp: 28/8/2021	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Carnation NFDM Exp: 31/3/2020	2	-	-	/	-	-	/	-	-	-	/	-		NA
Saco Conscious Kitchen NFMD	3	-	-	/	-	-	/	-	-	-	/	-		NA
NFDM Exp: 6/1/2021	4	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+		PD
Carnation NFDM Exp: 3/12/2020	5	-	-	/	-	-	/	-	-	-	/	-		NA
Great Value NFDM	6	-	-	/	-	-	/	-	-	-	/	-		NA
Infant Formula - Gentle Triple Care Exp: 14/7/2021	7	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Infant Formula - Gentle Triple Care Exp: 8/11/2021	8	-	-	/	-	-	/	-	-	-	/	-		NA
Cultured Buttermilk Blend	9	-	-	/	-	-	/	-	-	-	/	-		NA
Nido Fortificada Infant Formula	10	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Nido Kinder Infant Formula	11	-	-	/	-	-	/	-	-	-	/	-		NA
Whey Powder - Chocolate	12	-	-	/	-	-	/	-	-	-	/	-		NA
Whey Powder - Vanilla	13	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Infant Formula - Sensitivity	14	-	-	/	-	-	/	-	-	-	/	-		NA
Infant Formula - Gentle Triple Care	15	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Infant Formula - Advantage	16	-	-	/	-	-	/	-	-	-	/	-		NA
Infant Formula - Infant	17	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Infant Formula - Added Rice Starch	18	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Infant Formula - Tender	19	-	-	/	-	-	/	-	-	-	/	-		NA
Baby Formula - Tender Beginnings	20	-	-	/	-	-	/	-	-	-	/	-		NA
Simple Truth NFDM	21	-	-	/	-	-	/	-	-	-	/	-		NA
Skimmed Milk Powder	22	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Instant Non-Fat Dry Milk	23	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Organic Milk Powder	24	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA

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Pasteurized Dairy Products														
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**								
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Creamer - Chocolate	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Spreadable Wedges - Swiss	2	-	-	/	-	-	/	-	-	-	/	-	NA
Grated Parmesean Cheese	3	-	-	/	-	-	/	-	-	-	/	-	NA
Organic American Singles	4	-	-	/	-	-	/	-	-	-	/	-	NA
Sour Cream - Light	5	-	-	/	-	-	/	-	-	-	/	-	NA
Sour Cream - Original	6	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Cottage Cheese - Small Curd	7*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Cottage Cheese - Small Curd fat Free	8	-	-	/	-	-	/	-	-	-	/	-	NA
Low Moisture Mozzarella String	9	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Cheese - Colby Jack	10	-	-	/	-	-	/	-	-	-	/	-	NA
Cheese - Monterey Jack	11	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Cheese - Mild Cheddar (Shredded)	12	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Cheese - Swiss (Shredded)	13	-	-	/	-	-	/	-	-	-	/	-	NA
Cheese - Quesso Quesadilla (Shredded)	14	-	-	/	-	-	/	-	-	-	/	-	NA
Milk - Whole	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Milk - Skim	16	-	-	/	-	-	/	-	-	-	/	-	NA
Milk - Chocolate	17	-	-	/	-	-	/	-	-	-	/	-	NA
ReddiWip - Extra Creamy	18	-	-	/	-	-	/	-	-	-	/	-	NA
ReddiWip - Fat Free	19	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Organic Coffee Creamer - Vanilla	20	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
2% Milk	21	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

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[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Raw Milk Products													
Item Type	Sample nº	Reference Method: ISO 6579-1:2017				Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]							
						Presumptive			Confirmation				
		XLD	BGA	Identification	Final Result	CASE Agar	Confirmation Procedures[2]	Final Result	XLD	BGA	Identification	Final Result	Agreement
Raw Cheese - Goat Cheese	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Raw Milk - Barn #1	2	-	-	/	-	-	/	-	-	-	/	-	NA
Raw Milk - Barn #2	3*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Raw Milk - Barn #3	4*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Raw Milk - Barn #4	5	-	-	/	-	-	/	-	-	-	/	-	NA
Raw Milk - Barn #5	6	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD
Raw Milk - Barn #6	7	-	-	/	-	-	/	-	-	-	/	-	NA
Raw Milk - Barn #7	8	-	-	/	-	-	/	-	-	-	/	-	NA
Raw Milk - Barn #8	9*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Raw Milk - Barn #9	10	-	-	/	-	-	/	-	-	-	/	-	NA
Raw Cheese - North Sea Cheese	11	-	-	/	-	-	/	-	-	-	/	-	NA
Raw Cheese - Aged Manchego	12	-	-	/	-	-	/	-	-	-	/	-	NA
Raw Cheese - Pecorino Romano Exp: 14/1/2020	13*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Raw Cheese - Aged Asiago	14	-	-	/	-	-	/	-	-	-	/	-	NA
Raw Cheese - English Cheedar	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Raw Cheese - Parmigiano Reggiano	16	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Raw Cheese - Gruyere	17	-	-	/	-	-	/	-	-	-	/	-	NA
Raw Cheese	18	-	-	/	-	-	/	-	-	-	/	-	NA
Raw Cheese - Pecorino Romano Exp: 16/1/2020	19	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Raw Cheese - Piave	20	-	-	/	-	-	/	-	-	-	/	-	NA

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Raw & RTC Fish and Seafood														
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**								
						Presumptive			**Confirmation**					
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	**Agreement**
Sand Bar - Raw Shrimp	1*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Snow Crab	2	-	-	/	-	-	/	-	-	-	/	-	NA
Sea Bass	3	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Mahi Mahi	4*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Flounder	5	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Tilapia	6	-	-	/	-	-	/	-	-	-	/	-	NA
Atlantic Salmon	7*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Butter Sauced Cod	8*	+	+	*Salmonella* spp.	+	-	/	-	-	-	/	-	ND
Atlantic Salmon	9	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Citrus Herb Rubbed Salmon	10	-	-	/	-	-	/	-	-	-	/	-	NA
Honey Chipotle Salmon	11	-	-	/	-	-	/	-	-	-	/	-	NA
Pan Sear Teriyaki Sesame Salmon	12	-	-	/	-	-	/	-	-	-	/	-	NA
Pan Sear Garlic and Herb Tilapia	13	-	-	/	-	-	/	-	-	-	/	-	NA
Lobster Tail	14*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Thai Chili Lime Tilapia	15	-	-	/	-	-	/	-	-	-	/	-	NA
Lemon Pepper Scallops	16	-	-	/	-	-	/	-	-	-	/	-	NA
Sail - Raw Shrimp	17*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Halibut	18	-	-	/	-	-	/	-	-	-	/	-	NA
Frozen Crabcake	19	-	-	/	-	-	/	-	-	-	/	-	NA
Ahi Tuna	20	-	-	/	-	-	/	-	-	-	/	-	NA
Raw catfish	21	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

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*Indicates a naturally contamined sample.

RTE, RTRH Seafood Products														
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**								
						Presumptive			**Confirmation**				**Agreement**	
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**		
Solid White Albacore Tuna - In Water	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Alaskan Sockeye Red Salmon	2	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Premium Lump Crab Meat	3*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Premium Whole Oysters	4	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Premium White Crab Meat	5	-	-	/	-	-	/	-	-	-	/	-	NA	
Mackerel	6	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Flat Anchovies	7	-	-	/	-	-	/	-	-	-	/	-	NA	
Red Salmon	8	-	-	/	-	-	/	-	-	-	/	-	NA	
White Crab Meat	9	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Chopped Clams	10*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Chunk Style Pink Salmon	11	-	-	/	-	-	/	-	-	-	/	-	NA	
Solid White Albacore Tuna - In Water	12	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Sardines - In Extra-Virgin Olive Oil	13	-	-	/	-	-	/	-	-	-	/	-	NA	
Kipper Snacks	14	-	-	/	-	-	/	-	-	-	/	-	NA	
Sardines - Mediterranean Style	15	-	-	/	-	-	/	-	-	-	/	-	NA	
Premium Smoked Oysters	16	-	-	/	-	-	/	-	-	-	/	-	NA	
Albacore White Tuna - In Water	17	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Chunk Light Tuna	18	-	-	/	-	-	/	-	-	-	/	-	NA	
Chunk White Albacore Tuna	19	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Fancy Whole Baby Clams	20	-	-	/	-	-	/	-	-	-	/	-	NA	

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*Indicates a naturally contamined sample.

RTC Foods - Seafood													
Item Type	Sample nº	Reference Method: ISO 6579-1:2017				Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]							
						Presumptive			Confirmation				
		XLD	BGA	Identification	Final Result	CASE Agar	Confirmation Procedures[2]	Final Result	XLD	BGA	Identification	Final Result	Agreement
Fish Sticks	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Natural Catch Fish Fillets	2*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Lightly Battered Tilapia	3	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Honey Sriracha Salmon	4	-	-	/	-	-	/	-	-	-	/	-	NA
Crunchy Fish Sticks	5*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Alaskan Pollock Fillets	6*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Fish Nuggets	7*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Buffalo Fish Bites	8	-	-	/	-	-	/	-	-	-	/	-	NA
Grilled Salmon	9	-	-	/	-	-	/	-	-	-	/	-	NA
Wild caught Cod Fish Fillets	10*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Cajun Salmon	11	-	-	/	-	-	/	-	-	-	/	-	NA
Premium Cod Fillets	12	-	-	/	-	-	/	-	-	-	/	-	NA
Baked Salmon	13	-	-	/	-	-	/	-	-	-	/	-	NA
Teriyaki Salmon	14	-	-	/	-	-	/	-	-	-	/	-	NA
Fish Taco Bites	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Grilled Tilapia	16	-	-	/	-	-	/	-	-	-	/	-	NA
Atlantic Salmon	17	-	-	/	-	-	/	-	-	-	/	-	NA
Tilapia Fish Sticks	18	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Fillets - Potato Crusted	19	-	-	/	-	-	/	-	-	-	/	-	NA
Fish Sticks	20	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

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[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Fruit														
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**								
						Presumptive			**Confirmation**				**Agreement**	
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**		
Blueberries	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Honeydew	2	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Orange	3	-	-	/	-	-	/	-	-	-	/	-		NA
Grapefruit	4*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Starfruit	5	-	-	/	-	-	/	-	-	-	/	-		NA
Lemon	6*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Apple	7	-	-	/	-	-	/	-	-	-	/	-		NA
Plum	8*	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+		PD
Pomagranet	9	-	-	/	-	-	/	-	-	-	/	-		NA
Bernie's Mango	10*	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+		PD
Solsol Mango	11*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
lime	12	-	-	/	-	-	/	-	-	-	/	-		NA
Kiwi	13	-	-	/	-	-	/	-	-	-	/	-		NA
Green Pear	14*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Apple Pear	15	-	-	/	-	-	/	-	-	-	/	-		NA
Bartlet Pear	16*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Red Pear	17	-	-	/	-	-	/	-	-	-	/	-		NA
Cantalope	18*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Coconut	19*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Strawberries	20	-	-	/	-	-	/	-	-	-	/	-		NA

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*Indicates a naturally contamined sample.

Vegetables													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Salad Mix	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Cabage	2*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
English Cucumber	3*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Okra	4*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Zuchini	5	-	-	/	-	-	/	-	-	-	/	-	NA
Yellow Squash	6	-	-	/	-	-	/	-	-	-	/	-	NA
Butternut Squash	7	-	-	/	-	-	/	-	-	-	/	-	NA
Asparagus	8	-	-	/	-	-	/	-	-	-	/	-	NA
Spaghetti Squash	9*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sugar snap peas	10*	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD
Green Onion	11	-	-	/	-	-	/	-	-	-	/	-	NA
Baby Carrots	12	-	-	/	-	-	/	-	-	-	/	-	NA
Beet	13	-	-	/	-	-	/	-	-	-	/	-	NA
Turnip	14*	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD
Brussel sprouts	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Raddish	16	-	-	/	-	-	/	-	-	-	/	-	NA
Tomotillo	17*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Brocolli	18	-	-	/	-	-	/	-	-	-	/	-	NA
Califlower	19*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Tomato	20	-	-	/	-	-	/	-	-	-	/	-	NA

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RTE & RTRH Fruits and Vegetable													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Cut cucumber	1	-	-	/	-	-	/	-	-	-	/	-	NA
Sliced zuchini	2*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sliced yellow squash	3	-	-	/	-	-	/	-	-	-	/	-	NA
Diced Butternut squash	4*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
sliced carrots	5*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Diced brussel sprouts	6	-	-	/	-	-	/	-	-	-	/	-	NA
cut brocoli	7	-	-	/	-	-	/	-	-	-	/	-	NA
baby carrots - food tray	8*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
califlower - food tray	9*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
cherry tomatoes - food tray	10	-	-	/	-	-	/	-	-	-	/	-	NA
lemon slices	11*	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD
lime slices	12*	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD
apple slices	13	-	-	/	-	-	/	-	-	-	/	-	NA
plum	14	-	-	/	-	-	/	-	-	-	/	-	NA
kiwi	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
coconut	16*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
peeled orange	17	-	-	/	-	-	/	-	-	-	/	-	NA
grapefruit slices	18	-	-	/	-	-	/	-	-	-	/	-	NA
pomagranet seeds	19*	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD
sliced strawberries	20*	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD

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Egg Based Preparations														
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**								
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Bacon Toasted Scrambles Exp: 10/8/2020	1	-	-	/	-	-	/	-	-	-	/	-	NA
Sausage Toaster Scramble Exp: 29/6/2020	2	-	-	/	-	-	/	-	-	-	/	-	NA
Bacon & Sausage Toaster Scramble Exp: 30/6/2020	3	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
GV Bacon & Cheese Egg Bites Exp: 2/4/2020	4*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
GV Turkey Sausage & Cheese Egg bites Exp: 9/4/2020	5	-	-	/	-	-	/	-	-	-	/	-	NA
GV Veegies & Cheese Egg bites Exp: 26/3/2020	6	-	-	/	-	-	/	-	-	-	/	-	NA
Meat Lover's Breakfast Bowl Exp: 13/11/2020	7	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Bacon Breakfast Bowl Exp: 11/12/2020	8	-	-	/	-	-	/	-	-	-	/	-	NA
Sausage Breakfast Bowl Exp: 12/12/2020	9*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sausage Gravy Breakfast bowl Exp: 5/11/2020	10*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Bacon Toasted Scrambles Exp: 21/8/2020	11	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sausage Toaster Scramble Exp: 22/6/2020	12	-	-	/	-	-	/	-	-	-	/	-	NA
Bacon & Sausage Toaster Scramble Exp: 20/6/2020	13	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
GV Bacon & Cheese Egg Bites Exp: 15/4/2020	14	-	-	/	-	-	/	-	-	-	/	-	NA
GV Turkey Sausage & Cheese Egg bites Exp: 17/4/2020	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
GV Veegies & Cheese Egg bites Exp: 11/3/2020	16	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Meat Lover's Breakfast Bowl Exp: 22/11/2020	17*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Bacon Breakfast Bowl Exp: 30/12/2020	18*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sausage Breakfast Bowl Exp: 29/12/2020	19	-	-	/	-	-	/	-	-	-	/	-	NA
Sausage Gravy Breakfast bowl Exp: 16/11/2020	20	-	-	/	-	-	/	-	-	-	/	-	NA

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*Indicates a naturally contamined sample.

Pasteurized Liquid Egg portions													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
No Break - Real Egg Exp: 16/2/20	1	-	-	/	-	-	/	-	-	-	/	-	NA
100% Liquid Egg White Exp: 22/2/20	2	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Bob Evan's Egg Whites Exp: 4/3/20	3	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Egg Beater's - Whole Eggs Exp: 1/3/20	4	-	-	/	-	-	/	-	-	-	/	-	NA
Egg Beater's - Original Exp: 4/2/20	5	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Egg Beater's - Southwestern Style Exp: 28/2/20	6	-	-	/	-	-	/	-	-	-	/	-	NA
Egg Beater's - Whole Eggs Exp: 14/2/20	7	-	-	/	-	-	/	-	-	-	/	-	NA
No Break - Egg Whites	8	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Egg Beater's - Whole Eggs with Nisin	9	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Kroger - Cage Free Egg Whites	10	-	-	/	-	-	/	-	-	-	/	-	NA
Simple Truth - Organic Cage Free Whole Liquid Eggs	11	-	-	/	-	-	/	-	-	-	/	-	NA
Kroger - Cage Free Liquid Whole Eggs	12	-	-	/	-	-	/	-	-	-	/	-	NA
Simple Truth - Cage Free Liquid Egg Whites	13	-	-	/	-	-	/	-	-	-	/	-	NA
No Break - Real Egg Exp: 6/2/20	14	-	-	/	-	-	/	-	-	-	/	-	NA
100% Liquid Egg White Exp: 19/2/20	15	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Bob Evan's Egg Whites Exp: 21/2/20	16	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Egg Beater's - Whole Eggs Exp: 17/2/20	17	-	-	/	-	-	/	-	-	-	/	-	NA
Egg Beater's - Original Exp: 16/2/20	18	-	-	/	-	-	/	-	-	-	/	-	NA
Egg Beater's - Southwestern Style Exp: 18/2/20	19	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Egg Beater's - Whole Eggs Exp: 6/2/20	20	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

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Dehydrated Egg Products													
Item Type	Sample nº	Reference Method: ISO 6579-1:2017				Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]							
						Presumptive			Confirmation				
		XLD	BGA	Identification	Final Result	CASE Agar	Confirmation Procedures[2]	Final Result	XLD	BGA	Identification	Final Result	Agreement
Ova Easy - Hearty Wholesome Eggs	1	-	-	/	-	-	/	-	-	-	/	-	NA
Judees Whole Eggs Dried	2	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Wild Roots Whole Egg Powder	3	-	-	/	-	-	/	-	-	-	/	-	NA
Solstice Wole Egg Powder	4	-	-	/	-	-	/	-	-	-	/	-	NA
Saratoga Farms Whole egg Powder	5	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Augason Farms Dried Whole Egg Powder	6	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
No Fluff Whole Eggs Dried	7	-	-	/	-	-	/	-	-	-	/	-	NA
Barry Farm Dried Egg Powder	8	-	-	/	-	-	/	-	-	-	/	-	NA
American Family Supple Dehydrated Egg Mix	9	-	-	/	-	-	/	-	-	-	/	-	NA
Augason Farms Scrambled Egg Mix	10	-	-	/	-	-	/	-	-	-	/	-	NA
Halal Nutrition Scrambled Egg Powder	11	-	-	/	-	-	/	-	-	-	/	-	NA
HSN Foods Whole EggPowder	12	-	-	/	-	-	/	-	-	-	/	-	NA
Whole Egg	13	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Egg White Powder	14	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Powdered Egg Whites	15	-	-	/	-	-	/	-	-	-	/	-	NA
Judee's Egg Whites Dried	16	-	-	/	-	-	/	-	-	-	/	-	NA
Deb El Just Whites	17	-	-	/	-	-	/	-	-	-	/	-	NA
White Protein	18	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Whole Eggs	19	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
AmericanSpice.com Whole Egg Powder	20	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Egg White Powder	21	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Emergency Egg Powder	22	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

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Dry Feed														
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**								
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Milk Bone Trail Mix	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Pet Pride - Crunchy Bites (Steak & Chicken)	2	-	-	/	-	-	/	-	-	-	/	-	NA
Pet Pride - Puppy (Chicken)	3	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD
Pedigree - Small Dog (Chicken, Rice & Vegetables)	4*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Pedigree - Puppy (Chicken & Vegetables)	5	-	-	/	-	-	/	-	-	-	/	-	NA
9 Lives - Protein Plus (Chicken & Tuna)	6*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Pet Pride - All Life (Poultry & Seafood)	7	-	-	/	-	-	/	-	-	-	/	-	NA
Pet Pride - Indoor Cat (Chicken & Turkey)	8	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Meow Mix - hairball Control	9	-	-	/	-	-	/	-	-	-	/	-	NA
Meow Mix - Tender Centers (Salmon & Chicken)	10*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Purina Friskes - Tender & Crunchy	11	-	-	/	-	-	/	-	-	-	/	-	NA
Purina Friskes - Indoor Delights	12	-	-	/	-	-	/	-	-	-	/	-	NA
DuMOR Poultry - 16% Layer Feed Pellets	13	-	-	/	-	-	/	-	-	-	/	-	NA
DuMOR Poultry - Chick Starter/Grower 20% Feed	14	-	-	/	-	-	/	-	-	-	/	-	NA
Producer's Pride - 16% Mini-Pellet Layer Chicken Feed	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Producer's Pride - 12% Sweet Livestock Feed	16	-	-	/	-	-	/	-	-	-	/	-	NA
Producer's Pride - Whole Corn	17	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
DuMOR - Alfalfa Pellets	18	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
DuMOR Equistages - Equine Feed	19	-	-	/	-	-	/	-	-	-	/	-	NA
Producer's Pride - 12% All-Stock Sweet Feed	20	-	-	/	-	-	/	-	-	-	/	-	NA
Equine Grain Feed	21	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Wet Feed													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	**Agreement**
Chicken & Salmon in Broth	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Prime Blends (Chicken & Lamb in Broth)	2	-	-	/	-	-	/	-	-	-	/	-	NA
Chicken Paw Pie	3	-	-	/	-	-	/	-	-	-	/	-	NA
Hearty Beef Stew	4	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Chopped Blends (Salmon, Sweet Potatoes, Brown Rice & Spinach)	5	-	-	/	-	-	/	-	-	-	/	-	NA
Chopped Blends (Lamb, Brown Rice, Carrots, Tomatoes & Spinach)	6	-	-	/	-	-	/	-	-	-	/	-	NA
Bella (Pate Chicken & Smoked Bacon flavor)	7	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD
Bella Small Dogs (Porterhouse Steak flavors)	8*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Chicken & Beef recipe	9	-	-	/	-	-	/	-	-	-	/	-	NA
Slow cooked Chicken & Vegetable dinner in sauce	10*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Open Range (Chicken & Beef in hearty gravy)	11	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Peak - Red Range (Lamb & beef in hearty gravy)	12	-	-	/	-	-	/	-	-	-	/	-	NA
Kittens (Salmon recipe)	13	-	-	/	-	-	/	-	-	-	/	-	NA
High Protein, Grain Free (Duck recipe)	14	-	-	/	-	-	/	-	-	-	/	-	NA
Hearty Gourmet (Meaty Morsels - Tuna entrée)	15	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Hearty Gourmet (Grilled Salmon entrée)	16	-	-	/	-	-	/	-	-	-	/	-	NA
Turkey & Duck recipe cuts in gravy	17	-	-	/	-	-	/	-	-	-	/	-	NA
Salmon recipe cuts in gravy	18	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Pate - Turkey recipe	19	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Pate - Salmon & Tuna recipe	20	-	-	/	-	-	/	-	-	-	/	-	NA
Chicken and Shrimp Pate	21	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Chicken and Greens Pate	22	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Feed Ingredients													
Item Type	Sample nº	Reference Method: ISO 6579-1:2017				Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]							
						Presumptive			Confirmation				
		XLD	BGA	Identification	Final Result	CASE Agar	Confirmation Procedures[2]	Final Result	XLD	BGA	Identification	Final Result	Agreement
Canola Oil	1	-	-	/	-	-	/	-	-	-	/	-	NA
Brown Rice Flower	2	-	-	/	-	-	/	-	-	-	/	-	NA
Kale	3*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Mushrooms	4*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Ground Lamb	5*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
All purpose Flour	6	-	-	/	-	-	/	-	-	-	/	-	NA
Sunflower Oil	7	-	-	/	-	-	/	-	-	-	/	-	NA
Peas	8*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Grean Beans	9	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Old Fashioned Oats	10	-	-	/	-	-	/	-	-	-	/	-	NA
Beef Broth	11	-	-	/	-	-	/	-	-	-	/	-	NA
Turkey Broth	12	-	-	/	-	-	/	-	-	-	/	-	NA
Yeast	13	-	-	/	-	-	/	-	-	-	/	-	NA
Pumpkin	14*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sweet potato	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Bone Broth - Chicken	16	-	-	/	-	-	/	-	-	-	/	-	NA
Large egg	17	-	-	/	-	-	/	-	-	-	/	-	NA
Rice	18	-	-	/	-	-	/	-	-	-	/	-	NA
Corn Meal	19	-	-	/	-	-	/	-	-	-	/	-	NA
Whole Wheat Flour	20	-	-	/	-	-	/	-	-	-	/	-	NA
Wheat Grain	21	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Rice Grain	22	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

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[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Surface Samples													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Swab (food industry): Location 1	1*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sponge (food industry): Location 1	2	-	-	/	-	-	/	-	-	-	/	-	NA
Sponge (food industry): Location 1	3	-	-	/	-	-	/	-	-	-	/	-	NA
Sponge (food industry): Location 1	4	-	-	/	-	-	/	-	-	-	/	-	NA
Swab (food industry): Location 1	5*	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD
Swab (food industry): Location 2	6	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Swab (food industry): Location 2	7	-	-	/	-	-	/	-	-	-	/	-	NA
Swab (food industry): Location 2	8	-	-	/	-	-	/	-	-	-	/	-	NA
Sponge (food industry): Location 2	9	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sponge (food industry): Location 2	10	-	-	/	-	-	/	-	-	-	/	-	NA
Swab (food industry): Location 3	11*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sponge (food industry): Location 3	12	-	-	/	-	-	/	-	-	-	/	-	NA
Sponge (food industry): Location 3	13	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sponge (food industry): Location 3	14	-	-	/	-	-	/	-	-	-	/	-	NA
Swab (food industry): Location 3	15	-	-	/	-	-	/	-	-	-	/	-	NA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Surface Samples													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Swab (food industry): Location 4	16	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Swab (food industry): Location 4	17*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sponge (food industry): Location 4	18*	+	+	*Salmonella* spp.	+	-	/	-	-	-	/	-	ND
Swab (food industry): Location 4	19	-	-	/	-	-	/	-	-	-	/	-	NA
Swab (food industry): Location 4	20	-	-	/	-	-	/	-	-	-	/	-	NA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Process Water													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Process Water (food industry) Location 1	1	-	-	/	-	-	/	-	-	-	/	-	NA
Process Water (food industry) Location 1	2	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Process Water (food industry) Location 1	3	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Process Water (food industry) Location 1	4	-	-	/	-	-	/	-	-	-	/	-	NA
Process Water (food industry) Location 1	5	-	-	/	-	-	/	-	-	-	/	-	NA
Process Water (food industry) Location 2	6	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Process Water (food industry) Location 2	7	+	+	*Salmonella* spp.	+	-	/	-	-	-	/	-	ND
Process Water (food industry) Location 2	8	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Process Water (food industry) Location 2	9	-	-	/	-	-	/	-	-	-	/	-	NA
Process Water (food industry) Location 2	10	-	-	/	-	-	/	-	-	-	/	-	NA
Process Water (food industry) Location 3	11	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Process Water (food industry) Location 3	12	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Process Water (food industry) Location 3	13	-	-	/	-	-	/	-	-	-	/	-	NA
Process Water (food industry) Location 3	14	-	-	/	-	-	/	-	-	-	/	-	NA
Process Water (food industry) Location 3	15	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Process Water													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Process Water (food industry) Location 4	16	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Process Water (food industry) Location 4	17	-	-	/	-	-	/	-	-	-	/	-	NA
Process Water (food industry) Location 4	18	-	-	/	-	-	/	-	-	-	/	-	NA
Process Water (food industry) Location 4	19	-	-	/	-	-	/	-	-	-	/	-	NA
Process Water (food industry) Location 4	20	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
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*Indicates a naturally contamined sample.

Dusts														
Item Type	Sample nº	Reference Method: ISO 6579-1:2017				Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]								
						Presumptive			Confirmation					
		XLD	BGA	Identification	Final Result	CASE Agar	Confirmation Procedures[2]	Final Result	XLD	BGA	Identification	Final Result	Agreement	
Dust (food industry) Location 1	1*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Dust (food industry) Location 1	2*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Dust (food industry) Location 1	3	-	-	/	-	-	/	-	-	-	/	-	NA	
Dust (food industry) Location 1	4	-	-	/	-	-	/	-	-	-	/	-	NA	
Dust (food industry) Location 1	5*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Dust (food industry) Location 2	6*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Dust (food industry) Location 2	7*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Dust (food industry) Location 2	8	-	-	/	-	-	/	-	-	-	/	-	NA	
Dust (food industry) Location 2	9	-	-	/	-	-	/	-	-	-	/	-	NA	
Dust (food industry) Location 2	10*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Dust (food industry) Location 3	11*	+	+	*Salmonella* spp.	+	-	/	-	-	-	/	-	ND	
Dust (food industry) Location 3	12*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Dust (food industry) Location 3	13*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Dust (food industry) Location 4	14*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Dust (food industry) Location 4	15	-	-	/	-	-	/	-	-	-	/	-	NA	
Dust (food industry) Location 4	16*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Dust (food industry) Location 4	17*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA	
Dust (food industry) Location 4	18	-	-	/	-	-	/	-	-	-	/	-	NA	

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[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Dusts														
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**								
						Presumptive			**Confirmation**					**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**		
Dust (food industry) Location 5	19*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Dust (food industry) Location 5	20*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Dust (food industry) Location 5	21*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Dust (food industry) Location 5	22	-	-	/	-	-	/	-	-	-	/	-		NA
Dust (food industry) Location 5	23*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Dust (food industry) Location 6	24	-	-	/	-	-	/	-	-	-	/	-		NA
Dust (food industry) Location 6	25*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Dust (food industry) Location 6	26*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA

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[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Raw Meat - Enrichment @ 5 ± 3 for 72 hours													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Ground Beef	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Pork Ribs	2*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Natural Ground Beef	7*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Country Pork	8*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Diced Pork	11*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Beef Cubed Steak	13	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Traditional Pork Sausage Links	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Maple Pork Sausage Patties	16	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Angus Beef - 85% 15%	19	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Angus Beef - 80% 20%	20	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Raw Poultry - Enrichment @ 5 ± 3 for 72 hours													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Ground Turkey	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Whole Fryin Chicken	2*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Whole Chicken	3	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Chicken Gizzards and Hearts	4*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Turkey Breast Cutlets	5*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Natural Ground Turkey Breast	6*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Ground Turkey	7	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Turkey Patties	8*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Ground Turkey	9	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Chicken Livers	10*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Chicken Drumsticks	13*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Ground Chicken Breast	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Ground Turkey	16*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Boneles Skinless Thighs	17	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Wing Drumlettes	19*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Deli-Fermented-Cured Meats - Enrichment @ 5 ± 3 for 72 hours													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Beef Snack Bites	3	+	+	*Salmonella spp.*	+	+	+	+	+	+	*Salmonella spp.*	+	PA
Old World Pepperoni - Deli Sliced	5	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sliced Pepperoni	7	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Uncured Hard Salami	8	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Original Smokehouse Beef Pork Strip	10	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Uncured Sopressata Dry Sausage	13	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Hot Uncured Capocollo	15	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Deli Virginia Ham	16	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Turkey Pepperoni	18	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Italian Mortadella	20	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.

Dehydrated Milk - Enrichment @ 5 ± 3 for 72 hours														
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**								
						Presumptive			**Confirmation**					**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**		
Meijer Non-Fat Dried Milk (NFDM) Exp: 28/8/2021	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Meijer NFDM Exp: 6/1/2021	4	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+		PD
Meijer Infant Formula - Gentle Triple Care Exp: 14/7/2021	7	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Nestle Nido Fortificada Infant Formula	10	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Simple Truth Whey Powder - Vanilla	13	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Comfort's Infant Formula - Gentle Triple Care	15	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Comfort's Infant Formula - Infant	17	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Comfort's Infant Formula - Added Rice Starch	18	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Skimmed Milk Powder	22	+	+	*Salmonella spp.*	+	+	+	+	+	+	*Salmonella spp.*	+		PA
Instant Non-Fat Dry Milk	23	+	+	*Salmonella spp.*	+	+	+	+	+	+	*Salmonella spp.*	+		PA
Organic Milk Powder	24	+	+	*Salmonella spp.*	+	+	+	+	+	+	*Salmonella spp.*	+		PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.

Pasteurized Dairy Products - Enrichment @ 5 ± 3 for 72 hours														
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**								
						Presumptive			**Confirmation**					
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	**Agreement**
Kroger Creamer - Chocolate	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Kroger Sour Cream - Original	6	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Kroger Cottage Cheese - Small Curd	7*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Kroger Low Moisture Mozzarella String	9	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Kroger Cheese - Monterey Jack	11	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Kroger Cheese - Mild Cheddar (Shredded)	12	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Kroger Milk - Skim	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
ReddiWip - Fat Free	19	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Simple Truth Organic Coffee Creamer - Vanilla	20	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
2% Milk	21	+	+	*Salmonella spp.*	+	+	+	+	+	+	*Salmonella spp.*	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Raw Milk Products - Enrichment @ 5 ± 3 for 72 hours													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Raw Cheese - Goat Cheese	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Raw Milk	3*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Raw Milk	4*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Raw Milk	6	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD
Raw Milk	9*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Raw Cheese - Murray's Pecorino Romano Exp: 14/1/2020	13	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Raw Cheese - Murray's English Cheedar	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Raw Cheese - Murray's Parmigiano Reggiano	16	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Raw Cheese - Murray's Pecorino Romano Exp: 16/1/2020	19	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Raw & RTC Fish and Seafood - Enrichment @ 5 ± 3 for 72 hours														
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**								
						Presumptive			**Confirmation**					
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	**Agreement**
Raw Shrimp	1*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sea Bass	3	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Mahi Mahi	4*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Flounder	5	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Atlantic Salmon	7*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Butter Sauced Cod	8*	+	+	*Salmonella* spp.	+	-	/	-	-	-	/	-	ND
Atlantic Salmon	9	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Lobster Tail	14*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Raw Shrimp	17*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Raw catfish	21	+	+	*Salmonella spp.*	+	+	+	+	+	+	*Salmonella spp.*	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

RTE, RTRH Seafood Products - Enrichment @ 5 ± 3 for 72 hours													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Solid White Albacore Tuna - In Water	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Alaskan Sockeye Red Salmon	2	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Premium Lump Crab Meat	3*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Premium Whole Oysters	4	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Mackerel	6	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
White Crab Meat	9	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Chopped Clams	10*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Solid White Albacore Tuna - In Water	12	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Albacore White Tuna - In Water	17	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Chunk White Albacore Tuna	19	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

RTC Foods - Seafood - Enrichment @ 5 ± 3 for 72 hours													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Fish Sticks	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Natural Catch Fish Fillets	2*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Lightly Battered Tilapia	3	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Crunchy Fish Sticks	5*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Alaskan Pollock Fillets	6*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Fish Nuggets	7*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Wild caught Cod Fish Fillets	10*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Fish Taco Bites	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Tilapia Fish Stics	18	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Fish Sticks	20	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Fruit - Enrichment @ 5 ± 3 for 72 hours													
Item Type	Sample nº	Reference Method: ISO 6579-1:2017				Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]							
						Presumptive			Confirmation				Agreement
		XLD	BGA	Identification	Final Result	CASE Agar	Confirmation Procedures[2]	Final Result	XLD	BGA	Identification	Final Result	
Blueberries	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Honeydew	2	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Grapefruit	4*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Lemon	6*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Plum	8*	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD
Bernie's Mango	10*	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD
Solsol Mango	11*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Green Pear	14*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Bartlet Pear	16*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Cantalope	18*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Coconut	19*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Vegetables - Enrichment @ 5 ± 3 for 72 hours													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Salad Mix	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Cabage	2*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
English Cucumber	3*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Okra	4*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Spaghetti Squash	9*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sugar snap peas	10*	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD
Turnip	14*	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD
Brussel sprouts	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Tomotillo	17*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Califlower	19*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

RTE & RTRH Fruits and Vegetable - Enrichment @ 5 ± 3 for 72 hours													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Sliced zuchini	2*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Diced Butternut squash	4*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
sliced carrots	5*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
baby carrots - food tray	8*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
califlower - food tray	9*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
lemon slices	11*	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD
lime slices	12*	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD
kiwi	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
coconut	16*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
pomagranet seeds	19*	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD
sliced strawberries	20*	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Egg Based Preparations - Enrichment @ 5 ± 3 for 72 hours														
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**								
						Presumptive			**Confirmation**					
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	**Agreement**
Bacon & Sausage Toaster Scramble Exp: 30/6/2020	3	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
GV Bacon & Cheese Egg Bites Exp: 2/4/2020	4*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Meat Lover's Breakfast Bowl Exp: 13/11/2020	7	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sausage Breakfast Bowl Exp: 12/12/2020	9*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sausage Gravy Breakfast bowl Exp: 5/11/2020	10*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Bacon Toasted Scrambles Exp: 21/8/2020	11	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Bacon & Sausage Toaster Scramble Exp: 20/6/2020	13	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
GV Turkey Sausage & Cheese Egg bites Exp: 17/4/2020	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
GV Veegies & Cheese Egg bites Exp: 11/3/2020	16	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Meat Lover's Breakfast Bowl Exp: 22/11/2020	17*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Bacon Breakfast Bowl Exp: 30/12/2020	18*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Pasteurized Liquid Egg portions - Enrichment @ 5 ± 3 for 72 hours														
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**								
						Presumptive			**Confirmation**					**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**		
100% Liquid Egg White Exp: 22/2/20	2	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Bob Evan's Egg Whites Exp: 4/3/20	3	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Egg Beater's - Original Exp: 4/2/20	5	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
No Break - Egg Whites	8	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Egg Beater's - Whole Eggs with Nisin	9	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
100% Liquid Egg White Exp: 19/2/20	15	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Bob Evan's Egg Whites Exp: 21/2/20	16	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Egg Beater's - Southwestern Style Exp: 18/2/20	19	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Egg Beater's - Whole Eggs Exp: 6/2/20	20	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.

Dehydrated Egg Products - Enrichment @ 5 ± 3 for 72 hours													
Item Type	Sample nº	Reference Method: ISO 6579-1:2017				Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]							
						Presumptive			Confirmation				Agreement
		XLD	BGA	Identification	Final Result	CASE Agar	Confirmation Procedures[2]	Final Result	XLD	BGA	Identification	Final Result	
Judees Whole Eggs Dried	2	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Saratoga Farms Whole egg Powder	5	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Augason Farms Dried Whole Egg Powder	6	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Legacy Powder Whole Egg	13	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Bakers Authority Egg White Powder	14	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Julian Bakery Ehh White Protein	18	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Rainy Day Foods Whole Eggs	19	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
AmericanSpice.com Whole Egg Powder	20	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Egg White Powder	21	+	+	*Salmonella spp.*	+	+	+	+	+	+	*Salmonella spp.*	+	PA
Emergency Egg Powder	22	+	+	*Salmonella spp.*	+	+	+	+	+	+	*Salmonella spp.*	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.

Dry Feed - Enrichment @ 5 ± 3 for 72 hours													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Milk Bone Trail Mix	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Pet Pride - Puppy (Chicken)	3	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD
Pedigree - Small Dog (Chicken, Rice & Vegetables)	4*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
9 Lives - Protein Plus (Chicken & Tuna)	6*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Pet Pride - Indoor Cat (Chicken & Turkey)	8	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Meow Mix - Tender Centers (Salmon & Chicken)	10*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Producer's Pride - 16% Mini-Pellet Layer Chicken Feed	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Producer's Pride - Whole Corn	17	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
DuMOR - Alfalfa Pellets	18	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Equine Grain Feed	21	+	+	*Salmonella spp.*	+	+	+	+	+	+	*Salmonella spp.*	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Wet Feed - Enrichment @ 5 ± 3 for 72 hours														
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**								
						Presumptive			**Confirmation**					**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**		
Nature's Recipe - Chicken & Salmon in Broth	1	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Nutrish - Hearty Beef Stew	4	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Purina - Bella (Pate Chicken & Smoked Bacon flavor)	7	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+		PD
Purina - Bella Small Dogs (Porterhouse Steak flavors)	8*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Cesar Home Delights - Slow cooked Chicken & Vegetable dinner in sauce	10*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Peak - Open Range (Chicken & Beef in hearty gravy)	11	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Blue Wilderness - Hearty Gourmet (Meaty Morsels - Tuna entrée)	15	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Crave - Salmon recipe cuts in gravy	18	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Nutro - Pate - Turkey recipe	19	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+		PA
Chicken and Shrimp Pate	21	+	+	*Salmonella spp.*	+	+	+	+	+	+	*Salmonella spp.*	+		PA
Chicken and Greens Pate	22	+	+	*Salmonella spp.*	+	+	+	+	+	+	*Salmonella spp.*	+		PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Feed Ingredients - Enrichment @ 5 ± 3 for 72 hours													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Kale	3*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Mushrooms	4*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Ground Lamb	5*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Peas	8*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Grean Beans	9	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Pumpkin	14*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sweet potato	15*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Wheat Grain	21	+	+	*Salmonella spp.*	+	+	+	+	+	+	*Salmonella spp.*	+	PA
Rice Grain	22	+	+	*Salmonella spp.*	+	+	+	+	+	+	*Salmonella spp.*	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Surface Samples - Enrichment @ 5 ± 3 for 72 hours													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Swab (food industry) Location 1	1*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Swab (food industry) Location 1	5*	-	-	/	-	+	+	+	+	+	*Salmonella* spp.	+	PD
Swab (food industry) Location 2	6	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sponge (food industry) Location 2	9	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Swab (food industry) Location 3	11*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sponge (food industry) Location 3	13	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Swab (food industry) Location 4	16	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Swab (food industry) Location 4	17*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Sponge (food industry) Location 4	18*	+	+	*Salmonella* spp.	+	-	/	-	-	-	/	-	ND

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

Process Water - Enrichment @ 5 ± 3 for 72 hours													
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**							
						Presumptive			**Confirmation**				**Agreement**
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	
Process Water (food industry) Location 1	2	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Process Water (food industry) Location 1	3	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Process Water (food industry) Location 2	6	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Process Water (food industry) Location 2	7	+	+	*Salmonella* spp.	+	-	/	-	-	-	/	-	ND
Process Water (food industry) Location 2	8	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Process Water (food industry) Location 3	11	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Process Water (food industry) Location 3	12	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Process Water (food industry) Location 3	15	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Process Water (food industry) Location 4	16	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Process Water (food industry) Location 4	20	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.

Dusts - Enrichment @ 5 ± 3 for 72 hours														
Item Type	**Sample nº**	**Reference Method: ISO 6579-1:2017**				**Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]**								
						Presumptive			**Confirmation**					
		XLD	**BGA**	**Identification**	**Final Result**	**CASE Agar**	**Confirmation Procedures[2]**	**Final Result**	**XLD**	**BGA**	**Identification**	**Final Result**	**Agreement**
Dust (food industry) Location 1	1*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Dust (food industry) Location 1	2*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Dust (food industry) Location 1	5*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Dust (food industry) Location 2	6*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Dust (food industry) Location 2	7*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Dust (food industry) Location 2	10*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Dust (food industry) Location 3	11*	+	+	*Salmonella* spp.	+	-	/	-	-	-	/	-	ND
Dust (food industry) Location 3	12*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Dust (food industry) Location 3	13*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Dust (food industry) Location 4	14*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Dust (food industry) Location 4	16*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Dust (food industry) Location 4	17*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Dust (food industry) Location 5	19*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Dust (food industry) Location 5	20*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Dust (food industry) Location 5	21*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Dust (food industry) Location 5	23*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Dust (food industry) Location 6	25*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA
Dust (food industry) Location 6	26*	+	+	*Salmonella* spp.	+	+	+	+	+	+	*Salmonella* spp.	+	PA

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
*Indicates a naturally contamined sample.

ANNEX F Raw data on inclusivity and exclusivity

Sample nº	Species and subspecies	Serovar	Source and Strain	Origin	Inoculation Level on XLD (CFU/ml)	Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)					
						CASE Agar	Confirmation Procedures[1]	XLD	BGA	Identification	Final Result
1	*S. enterica* subsp. *arizonae*		ATCC[2] 13314	Not Available	82	+	+	+	+	+	+
2	*S. enterica* subsp. *arizonae*		ATCC BAA-1577	Not Available	73	+	+[7]	+	+	+	+
3	*S. enterica* subsp. *diarizonae*		ATCC BAA-639	Human feces	46	+	+[7]	+	+	+	+
4	*S. enterica* subsp. *diarizonae*		ATCC BAA-216	Human blood	52	+	+	+	+	+	+
5	*S. enterica* subsp. *houtenae*	Halmstad	QL[3] 024.1	Clinical isolate	67	+	+[7]	+	+	+	+
6	*S. enterica* subsp. *houtenae*	Harmelen	ATCC 15783	Boa constrictor	49	+	+[7]	+	+	+	+
7	*S. enterica* subsp. *houtenae*	Ochsenzoll	ATCC 29932	Not Available	25	+	+[7]	+	+	+	+
8	*S. enterica* subsp. *indica*	Ferlac	ATCC 43976	Not Available	30	+	+	+	+	+	+
9	*S. enterica* subsp. *indica*	Ferlac	NCTC[4] 10458	Ceylonese dessicated coconut	84	+	+	+	+	+	+
10	*S. enterica* subsp. *indica*		ATCC BAA-1578	India	77	+	+	+	+	+	+
11	*S. enterica* subsp. *salamae*	Artis	ATCC 700149	Not Available	64	+	+	+	+	+	+
12	*S. enterica* subsp. *salamae*	Basel	ATCC 700151	Not Available	82	+	+	+	+	+	+
13	*S. enterica* subsp. *salamae*		QL 02415	Pet food	93	+	+	+	+	+	+
14	*S. enterica* subsp. *enterica*	Abaetetuba	ATCC 35640	Creek water	59	+	+	+	+	+	+
15	*S. enterica* subsp. *enterica*	Abortusequi	FDA[5] 9842	Not Available	87	+	+[7]	+	+	+	+
16	*S. enterica* subsp. *enterica*	Abortusovis	NCTC 10241	Not Available	42	+	+[7]	+	+	+	+
17	*S. enterica* subsp. *enterica*	Abony	NCTC 6017	Not Available	39	+	+	+	+	+	+
18	*S. enterica* subsp. *enterica*	Adelaide	UPenn[6] STS 2	Not Available	44	+	+	+	+	+	+
19	*S. enterica* subsp. *enterica*	Agona	ATCC 51957	Not Available	65	+	+	+	+	+	+
20	*S. enterica* subsp. *enterica*	Agama	UPenn STS 3	Not Available	72	+	+	+	+	+	+
21	*S. enterica subsp. enterica*	Agoueve	Upenn2 STS 5	Not Available	89	+	+	+	+	+	+

[1]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.
[2]ATCC – American Type Culture Collection
[3]QL – Q Laboratories Culture Collection
[4]NCTC – National Collection of Type Cultures
[5]FDA – U.S. Food and Drug Administration Culture Collection
[6]UPenn – University of Pennsylvania Culture Collection
[7]The Microgen Salmonella Latex Agglutination kit did not produce a positive result.

Sample nº	Species and subspecies	Serovar	Source and Strain	Origin	Inoculation Level on XLD (CFU/ml)	Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)					
						CASE Agar	Confirmation Procedures[1]	XLD	BGA	Identification	Final Result
21	*S. enterica* subsp. *enterica*	Agoueve	Upenn[2] STS 5	Not Available	74	+	+	+	+	+	+
22	*S. enterica* subsp. *enterica*	Alachua	UPenn STS 6	Not Available	60	+	+	+	+	+	+
23	*S. enterica* subsp. *enterica*	Albany	UPenn STS 7	Not Available	85	+	+	+	+	+	+
24	*S. enterica* subsp. *enterica*	Anatum	ATCC[3] 9270	Pork liver	36	+	+	+	+	+	+
25	*S. enterica* subsp. *enterica*	Arkansas	UPenn STS 11	Not Available	46	+	+	+	+	+	+
26	*S. enterica* subsp. *enterica*	Bareilly	FDA[4] 1206H	Not Available	20	+	+	+	+	+	+
27	*S. enterica* subsp. *enterica*	Berta	UPenn STS 13	Not Available	73	+	+	+	+	+	+
28	*S. enterica* subsp. *enterica*	Binza	UPenn STS 14	Not Available	32	+	+	+	+	+	+
29	*S. enterica* subsp. *enterica*	Bovis-Morbificans	UPenn STS 16	Not Available	22	+	+	+	+	+	+
30	*S. enterica* subsp. *enterica*	Brandenburg	UPenn STS 18	Not Available	39	+	+	+	+	+	+
31	*S. enterica* subsp. *enterica*	Bredeney	NCTC[5] 5731	Not Available	21	+	+	+	+	+	+
32	*S. enterica* subsp. *enterica*	California	NCTC 6018	Not Available	83	+	+	+	+	+	+
33	*S. enterica* subsp. *enterica*	Cerro	UPenn STS 22	Not Available	71	+	+[6]	+	+	+	+
34	*S. enterica* subsp. *enterica*	Choleraesuis	ATCC 10708	Equine isolate	19	+	+	+	+	+	+
35	*S. enterica* subsp. *enterica*	Choleraesuis var Kunzendorf	ATCC 12011	Not Available	50	+	+	+	+	+	+
36	*S. enterica* subsp. *enterica*	Cubana	UPenn STS 24	Not Available	29	+	+	+	+	+	+
37	*S. enterica* subsp. *enterica*	Derby	NCTC 5721	Not Available	39	+	+	+	+	+	+
38	*S. enterica* subsp. *enterica*	Drypool	UPenn STS 26	Not Available	33	+	+	+	+	+	+
39	*S. enterica* subsp. *enterica*	Dublin	UPenn STS 27	Not Available	49	+	+	+	+	+	+
40	*S. enterica* subsp. *enterica*	Eastbourne	FDA 4017H	Not Available	47	+	+	+	+	+	+
41	*S. enterica subsp. enterica*	Enteritidis	ATCC 13076	Not Available	51	+	+	+	+	+	+
42	*S. enterica subsp. enterica*	Galiema	QL024.2	Environmental isolate	40	+	+	+	+	+	+

[1]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.

[2]UPenn – University of Pennsylvania Culture Collection

[3]ATCC – American Type Culture Collection

[4]FDA – U.S. Food and Drug Administration Culture Collection

[5]NCTC – National Collection of Type Cultures

[6]The Microgen Salmonella Latex Agglutination kit did not produce a positive result.

Sample nº	Species and subspecies	Serovar	Source and Strain	Origin	Inoculation Level on XLD (CFU/ml)	Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)					
						CASE Agar	Confirmation Procedures[1]	XLD	BGA	Identification	Final Result
43	*S. enterica* subsp. *enterica*	Give	Upenn[2] STS 42	Not Available	37	+	+	+	+	+	+
44	*S. enterica* subsp. *enterica*	Haardt	UPenn STS 44	Not Available	40	+	+	+	+	+	+
45	*S. enterica* subsp. *enterica*	Hadar	ATCC[3] 51956	Not Available	20	+	+	+	+	+	+
46	*S. enterica* subsp. *enterica*	Havana	UPenn STS 47	Not Available	78	+	+	+	+	+	+
47	*S. enterica* subsp. *enterica*	Heidelberg	ATCC 8326	Not Available	18	+	+	+	+	+	+
48	*S. enterica* subsp. *enterica*	Illinois	ATCC 11646	Not Available	24	+	+	+	+	+	+
49	*S. enterica* subsp. *enterica*	Indiana	NCTC[4] 11304	Turkey	43	+	+	+	+	+	+
50	*S. enterica* subsp. *enterica*	Infantis	ATCC 51741	Pasta	55	+	+	+	+	+	+
51	*S. enterica* subsp. *enterica*	Javiana	ATCC 10721	Not Available	82	+	+	+	+	+	+
52	*S. enterica* subsp. *enterica*	Jerusalem	QL[5] 024.12	Pet food	61	+	+	+	+	+	+
53	*S. enterica* subsp. *enterica*	Johannesburg	UPenn STS 56	Not Available	28	+	+	+	+	+	+
54	*S. enterica* subsp. *enterica*	Kahla	ATCC 17980	Not Available	41	+	+	+	+	+	+
55	*S. enterica* subsp. *enterica*	Kaitaan	QL 024.7	Pet food	59	+	+	+	+	+	+
56	*S. enterica* subsp. *enterica*	Kentucky	ATCC 9263	Not Available	45	+	+	+	+	+	+
57	*S. enterica* subsp. *enterica*	Krefeld	UPenn STS 58	Not Available	93	+	+	+	+	+	+
58	*S. enterica* subsp. *enterica*	Lille	UPenn STS 59	Not Available	43	+	+	+	+	+	+
59	*S. enterica* subsp. *enterica*	Livingstone	UPenn STS 63	Not Available	70	+	+	+	+	+	+
60	*S. enterica* subsp. *enterica*	London	UPenn STS 64	Not Available	64	+	+	+	+	+	+
61	*S. enterica* subsp. *enterica*	Manhattan	UPenn STS 65	Not Available	57	+	+	+	+	+	+
62	*S. enterica* subsp. *enterica*	Mbankaka	FDA[6] 37N	Low moisture ingredient	51	+	+	+	+	+	+
63	*S. enterica* subsp. *enterica*	Menden	ATCC 15992	Feces	32	+	+	+	+	+	+
64	*S. enterica subsp. enterica*	Meleagridis	QL12074-1	Environmental isolate	55	+	+	+	+	+	+
65	*S. enterica subsp. enterica*	Menhaden	QL024.20	Pet food	87	+	+	+	+	+	+

[1]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.

[2]UPenn – University of Pennsylvania Culture Collection

[3]ATCC – American Type Culture Collection

[4]NCTC – National Collection of Type Cultures

[5]QL – Q Laboratories Culture Collection

[6]FDA – U.S. Food and Drug Administration Culture Collection

Sample nº	Species and subspecies	Serovar	Source and Strain	Origin	Inoculation Level on XLD (CFU/ml)	Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)					
						CASE Agar	Confirmation Procedures[1]	XLD	BGA	Identification	Final Result
66	*S. enterica* subsp. *enterica*	Minnesota	Upenn[2] STS 70	Not Available	81	+	+	+	+	+	+
67	*S. enterica* subsp. *enterica*	Montevideo	ATCC[3] 8387	Not Available	25	+	+	+	+	+	+
68	*S. enterica* subsp. *enterica*	Muenchen	ATCC BAA-1594	Human stool	88	+	+	+	+	+	+
69	*S. enterica* subsp. *enterica*	Neasden	QL[4] 024.4	Raw material	44	+	+	+	+	+	+
70	*S. enterica* subsp. *enterica*	Newington	QL 024.8	Fish oil	84	+	+	+	+	+	+
71	*S. enterica* subsp. *enterica*	Newport	ATCC 6962	Food poisoning	48	+	+	+	+	+	+
72	*S. enterica* subsp. *enterica*	Ohio	UPenn STS 81	Not Available	61	+	+	+	+	+	+
73	*S. enterica* subsp. *enterica*	Oranienburg	ATCC 9239	Not Available	46	+	+	+	+	+	+
74	*S. enterica* subsp. *enterica*	Orthmarshen	QL 024.13	Pet kibble	95	+	+	+	+	+	+
75	*S. enterica* subsp. *enterica*	Paratyphi A	ATCC 9150	Not Available	42	+	+	+	+	+	+
76	*S. enterica* subsp. *enterica*	Paratyphi B	ATCC 10719	Not Available	90	+	+	+	+	+	+
77	*S. enterica* subsp. *enterica*	Paratyphi C	ATCC 13428	Not Available	32	+	+	+	+	+	+
78	*S. enterica* subsp. *enterica*	Pomona	ATCC 10729	Clinical isolate	55	+	+	+	+	+	+
79	*S. enterica* subsp. *enterica*	Poona	NCTC[5] 4840	Infant enteritis	30	+	+	+	+	+	+
80	*S. enterica* subsp. *enterica*	Potsdam	QL15091-1A	Pet food	23	+	+	+	+	+	+
81	*S. enterica* subsp. *enterica*	Preston	QL 024.16	Low moisture product	33	+	+	+	+	+	+
82	*S. enterica* subsp. *enterica*	Pullorum	ATCC 13036	Egg	40	+	+	+	+	+	+
83	*S. enterica* subsp. *enterica*	Rubislaw	UPenn STS 92	Not Available	63	+	+	+	+	+	+
84	*S. enterica* subsp. *enterica*	Saintpaul	ATCC 9712	Cystitis	53	+	+	+	+	+	+
85	*S. enterica* subsp. *enterica*	San-Diego	UPenn STS 94	Not Available	29	+	+	+	+	+	+
86	*S. enterica* subsp. *enterica*	Schalkwijk	QL 024.10	Cat food	67	+	+	+	+	+	+
87	*S. enterica* subsp. *enterica*	Schwarzengrund	UPenn STS 95	Not Available	56	+	+	+	+	+	+

[1]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.

[2]UPenn – University of Pennsylvania Culture Collection

[3]ATCC – American Type Culture Collection

[4]QL – Q Laboratories Culture Collection

[5]NCTC – National Collection of Type Cultures

Sample nº	Species and subspecies	Serovar	Source and Strain	Origin	Inoculation Level on XLD (CFU/ml)	Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)					
						CASE Agar	Confirmation Procedures[1]	XLD	BGA	Identification	Final Result
88	*S. enterica* subsp. *enterica*	Senftenberg	ATCC[2] 43845	Not Available	29	+	+	+	+	+	+
89	*S. enterica* subsp. *enterica*	Stanley	ATCC 7308	Not Available	54	+	+	+	+	+	+
90	*S. enterica* subsp. *enterica*	Sylvania	QL[3] 091313.4	Raw dog food	41	+	+	+	+	+	+
91	*S. enterica* subsp. *enterica*	Tallahassee	ATCC 12002	Not Available	26	+	+	+	+	+	+
92	*S. enterica* subsp. *enterica*	Tennessee	QL 024.6	Clinical isolate	52	+	+	+	+	+	+
93	*S. enterica* subsp. *enterica*	Thompson	FDA[4] 2051H	Not Available	86	+	+	+	+	+	+
94	*S. enterica* subsp. *enterica*	Tranoroa	NCTC[5] 10252	Not Available	66	+	+	+	+	+	+
95	*S. enterica* subsp. *enterica*	Typhi	ATCC 6539	Not Available	44	+	+	+	+	+	+
96	*S. enterica* subsp. *enterica*	Typhimurium	ATCC 14028	Animal tissue	34	+	+	+	+	+	+
97	*S. enterica* subsp. *enterica*	Utrect	NCTC 10077	Not Available	27	+	+	+	+	+	+
98	*S. enterica* subsp. *enterica*	Urbana	Upenn[6] STS 110	Not Available	75	+	+	+	+	+	+
99	*S. enterica* subsp. *enterica*	Vellore	ATCC 15611	Rectal swab	47	+	+	+	+	+	+
100	*S. enterica* subsp. *enterica*	Virchow	ATCC 51955	Not Available	27	+	+	+	+	+	+
101	*S. enterica* subsp. *enterica*	Volta	QL 024.9	Raw material	54	+	+	+	+	+	+
102	*S. enterica* subsp. *enterica*	Westhampton	QL 024.14	Dog kibble	58	+	+	+	+	+	+
103	*S. enterica* subsp. *enterica*	Worthington	UPenn STS 114	Not Available	35	+	+	+	+	+	+
104	*S. enterica* subsp. *enterica*	Zwickau	NCTC 15805	Not Available	24	+	+	+	+	+	+
105	*S. bongori*		ATCC 43975	Not Available	67	+	+[7]	+	+	+	+
106	*S. bongori*		NCTC 12419	Not Available	38	+	+[7]	+	+	+	+

[1]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.

[2]ATCC – American Type Culture Collection

[3]QL – Q Laboratories Culture Collection

[4]FDA – U.S. Food and Drug Administration Culture Collection

[5]NCTC – National Collection of Type Cultures

[6]UPenn – University of Pennsylvania Culture Collection

[7]The Microgen Salmonella Latex Agglutination kit did not produce a positive result.

Sample nº	Species and subspecies	Source and Strain	Origin	Inoculation Level on TSA (CFU/ml)	Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)	
					CASE Agar[1]	Observations
1	*Aeromonas hydrophila*	ATCC[2] 49140	Clinical Isolate	6.2×10^5	-	No Growth
2	*Alcaligenes faecalis*	ATCC 8750	Not Available	3.9×10^5	-	No Growth
3	*Bacillus subtilis*	ATCC 6051	Not Available	1.8×10^5	-	No Growth
4	*Campylobacter jejuni*	ATCC 33560	Feces, bovine	2.7×10^5	-	No Growth
5	*Candida albicans*	ATCC 24433	Nail Infection	9.1×10^5	-	White Colonies
6	*Carnobacterium maltaromaticum*	ATCC 43224	Vacuum-packed beef	5.0×10^5	-	No Growth
7	*Citrobacter youngae*	ATCC 11102	Not Available	6.8×10^5	-	Black Colonies
8	*Citrobacter farmeri*	ATCC 51113	Feces, Human	4.3×10^5	-	Black Colonies
9	*Citrobacter freundii*	ATCC 8090	Not Available	4.8×10^5	-	Black Colonies
10	*Edwardsiella tarda*	ATCC 15947	Feces, Human	5.2×10^5	-	No Growth
11	*Enterobacter aerogenes*	ATCC 13048	Sputum	8.1×10^5	-	Black Colonies
12	*Enterobacter cloacae*	ATCC 23355	Not Available	6.4×10^5	-	Black Colonies
13	*Enterococcus faecalis*	ATCC 29212	Urine	5.3×10^5	-	No Growth
14	*Escherichia coli*	ATCC 25922	Clinical Isolate	4.5×10^5	-	White Colonies
15	*Escherichia hermannii*	ATCC 33651	Arm Wound	6.9×10^5	-	White Colonies
16	*Hafnia alvei*	ATCC 51813	Milk, Minnesota	3.3×10^5	-	White Colonies
17	*Lactobacillus kefiri*	ATCC 35411	Kefir	7.4×10^5	-	No Growth
18	*Lactobacillus lactis*	ATCC 4794	Not Available	9.5×10^5	-	No Growth
19	*Listeria monocytogenes*	ATCC 7644	Human Isolate	4.2×10^5	-	No Growth
20	*Kluyvera intermedia*	ATCC 33110	Surface Water	3.8×10^5	-	Black Colonies
21	*Klebsiella pneumonia*	ATCC 13883	Not Available	1.9×10^5	-	Black Colonies
22	*Kocuria rhizophila*	ATCC 9341	Soil	2.6×10^5	-	No Growth
23	*Morganella morganii*	ATCC 25829	Human	4.1×10^5	-	White Colonies
24	*Proteus mirabilis*	ATCC 7002	Urine	8.7×10^5	-	No Growth
25	*Proteus vulgaris*	ATCC 6380	Clinical Isolate	7.6×10^5	-	No Growth

[1]Only typical colonies were regarded as positive.

[2]ATCC – American Type Culture Collection

Sample nº	Species and subspecies	Source and Strain	Origin	Inoculation Level on TSA (CFU/ml)	Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)	
					CASE Agar[1]	Observations
26	*Pseudomonas aeruginosa*	ATCC[2] 27853	Clinical Isolate	8.5×10^5	-	No Growth
27	*Serratia marcescens*	ATCC 14756	Fort Detrick, MD	5.9×10^5	-	Black Colonies
28	*Serratia marcescens*	ATCC 13880	Human	2.9×10^5	-	Black Colonies
29	*Shigella sonnei*	ATCC 29930	Not Available	6.5×10^5	-	No Growth
30	*Shigella boydii*	ATCC 9207	Pork Liver	7.2×10^5	-	No Growth
31	*Staphylococcus aureus*	ATCC 10832	Not Available	4.1×10^5	-	No Growth
32	*Staphylococcus epidermidis*	ATCC 12228	Not Available	6.6×10^5	-	No Growth
33	*Streptococcus pneumoniae*	ATCC 6302	Not Available	3.3×10^5	-	No Growth

[1]Only typical colonies were regarded as positive.

[2]ATCC – American Type Culture Collection

ANNEX G Raw data Relative Level of Detection

Matrix	APC[1] (CFU/g)	*Salmonella* Pathogen Screen[2] (25 g test portions)
Raw Ground Turkey	4.1×10^4	0/5
Matrix	**APC[1] (CFU/g)**	***Salmonella* Pathogen Screen[2] (25 g test portions)**
Queso Fresco	6.0×10^1	0/5
Matrix	**APC[1] (CFU/g)**	***Salmonella* Pathogen Screen[2] (25 g test portions)**
Smoked Salmon	1.0×10^2	0/5
Matrix	**APC[1] (CFU/mL)**	***Salmonella* Pathogen Screen[2] (25 g test portions)**
Cantaloupe	6.7×10^3	0/5
Matrix	**APC[1] (CFU/g)**	***Salmonella* Pathogen Screen[2] (25 g test portions)**
Dry Pet Food	3.2×10^3	0/5
Matrix	**APC[1] (CFU/mL)**	***Salmonella* Pathogen Screen[2] (25 g test portions)**
Liquid Pasteurized Eggs	4.0×10^1	0/5

[1]APC conducted in accordance with ISO 4833-1.

[2]*Salmonella* screen conducted following the ISO 6579-1:2017 reference method

Raw Ground Turkey - 25g																		
Item Type	Sample nº	Reference Method: ISO 6579-1:20171							Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]									
		MKTTn		RVS		Identification	Final Result	Positive/ Total	Presumptive			MKTTn		RVS		Identification	Final Result	Positive/ Total
		XLD	BGA	XLD	BGA				CASE Agar	Confirmation Procedures[2]	Final Result	XLD	BGA	XLD	BGA			
Uninoculated	1	-	-	-	-	/	-	0/5	-	/	-	-	-	-	-	/	-	0/5
	2	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	3	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	4	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	5	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
Low	1	-	-	-	-	/	-	11/20	-	/	-	-	-	-	-	/	-	14/20
	2	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	3	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	4	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	5	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	6	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	7	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	8	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	9	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	10	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	11	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	12	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	13	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	14	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	15	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	16	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	17	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	18	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	19	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	20	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella spp.*	+	
High	1	+	+	+	+	*Salmonella spp.*	+	5/5	+	+	+	+	+	+	+	*Salmonella* spp.	+	5/5
	2	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	3	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	4	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	5	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.

[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.

Queso Fresco - 25g																		
Item Type	Sample nº	Reference Method: ISO 6579-1:20171							Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]									
		MKTTn		RVS		Identification	Final Result	Positive/ Total	Presumptive			MKTTn		RVS		Identification	Final Result	Positive/ Total
		XLD	BGA	XLD	BGA				CASE Agar	Confirmation Procedures[2]	Final Result	XLD	BGA	XLD	BGA			
Uninoculated	1	-	-	-	-	/	-	0/5	-	/	-	-	-	-	-	/	-	0/5
	2	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	3	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	4	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	5	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
Low	1	-	-	-	-	/	-	7/20	-	/	-	-	-	-	-	/	-	9/20
	2	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	3	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	4	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	5	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	6	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	7	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	8	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	9	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	10	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	11	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	12	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	13	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	14	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	15	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	16	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	17	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	18	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	19	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	20	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
High	1	+	+	+	+	*Salmonella spp.*	+	5/5	+	+	+	+	+	+	+	*Salmonella* spp.	+	5/5
	2	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	3	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	4	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	5	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.

Smoked Salmon - 25g																		
Item Type	Sample nº	Reference Method: ISO 6579-1:20171							Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]									
		MKTTn		RVS		Identification	Final Result	Positive/ Total	Presumptive			MKTTn		RVS		Identification	Final Result	Positive/ Total
		XLD	BGA	XLD	BGA				CASE Agar	Confirmation Procedures[2]	Final Result	XLD	BGA	XLD	BGA			
Uninoculated	1	-	-	-	-	/	-	0/5	-	/	-	-	-	-	-	/	-	0/5
	2	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	3	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	4	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	5	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
Low	1	-	-	-	-	/	-	9/20	-	/	-	-	-	-	-	/	-	8/20
	2	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	3	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	4	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	5	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	6	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	7	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	8	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	9	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	10	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	11	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	12	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	13	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	14	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	15	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	16	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	17	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	18	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	19	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	20	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
High	1	+	+	+	+	*Salmonella spp.*	+	5/5	+	+	+	+	+	+	+	*Salmonella* spp.	+	5/5
	2	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	3	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	4	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	5	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.
[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.

Cantaloupe - 25g																		
Item Type	Sample nº	Reference Method: ISO 6579-1:20171							Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]									
		MKTTn		RVS		Identification	Final Result	Positive/ Total	Presumptive			MKTTn		RVS		Identification	Final Result	Positive/ Total
		XLD	BGA	XLD	BGA				CASE Agar	Confirmation Procedures[2]	Final Result	XLD	BGA	XLD	BGA			
Uninoculated	1	-	-	-	-	/	-	0/5	-	/	-	-	-	-	-	/	-	0/5
	2	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	3	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	4	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	5	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
Low	1	+	+	+	+	*Salmonella spp.*	+	7/20	-	/	-	-	-	-	-	/	-	11/20
	2	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	3	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	4	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	5	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	6	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	7	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	8	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	9	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	10	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	11	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	12	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	13	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	14	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	15	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	16	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	17	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	18	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	19	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	20	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
High	1	+	+	+	+	*Salmonella spp.*	+	5/5	+	+	+	+	+	+	+	*Salmonella* spp.	+	5/5
	2	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	3	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	4	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	5	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.

[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.

Dry Pet Food - 25g																		
Item Type	Sample nº	Reference Method: ISO 6579-1:20171							Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]									
		MKTTn		RVS		Identification	Final Result	Positive/ Total	Presumptive			MKTTn		RVS		Identification	Final Result	Positive/ Total
		XLD	BGA	XLD	BGA				CASE Agar	Confirmation Procedures[2]	Final Result	XLD	BGA	XLD	BGA			
Uninoculated	1	-	-	-	-	/	-	0/5	-	/	-	-	-	-	-	/	-	0/5
	2	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	3	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	4	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	5	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
Low	1	-	-	-	-	/	-	6/20	+	+	+	+	+	+	+	*Salmonella* spp.	+	8/20
	2	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	3	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	4	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	5	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	6	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	7	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	8	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	9	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	10	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	11	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	12	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	13	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	14	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	15	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
	16	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	17	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	18	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	19	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-	
	20	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-	
High	1	+	+	+	+	*Salmonella spp.*	+	5/5	+	+	+	+	+	+	+	*Salmonella* spp.	+	5/5
	2	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	3	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	4	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	
	5	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+	

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.

[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.

Liquid Pasteurized Eggs - 25g																			
Item Type	Sample nº	Reference Method: ISO 6579-1:20171							Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]										
		MKTTn		RVS		Identification	Final Result	Positive/ Total	Presumptive			MKTTn		RVS		Identification	Final Result	Positive/ Total	
		XLD	BGA	XLD	BGA				CASE Agar	Confirmation Procedures[2]	Final Result	XLD	BGA	XLD	BGA				
Uninoculated	1	-	-	-	-	/	-	0/5	-	/	-	-	-	-	-	/	-	0/5	
	2	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-		
	3	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-		
	4	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-		
	5	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-		
Low	1	-	-	-	-	/	-	7/20	-	/	-	-	-	-	-	/	-	10/20	
	2	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-		
	3	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	4	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-		
	5	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	6	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	7	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-		
	8	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-		
	9	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	10	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	11	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	12	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-		
	13	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-		
	14	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-		
	15	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-		
	16	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	17	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	18	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	19	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-		
	20	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+		
High	1	+	+	+	+	*Salmonella spp.*	+	5/5	+	+	+	+	+	+	+	*Salmonella* spp.	+	5/5	
	2	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	3	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	4	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	5	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+		

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.

[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.

Stainless Steel – 4” x 4” Surface Area																			
Item Type	Sample nº	Reference Method: ISO 6579-1:20171							Alternative Method: One Broth One Plate *Salmonella* (OBOP-S)[1]										
		MKTTn		RVS		Identification	Final Result	Positive/ Total	Presumptive			MKTTn		RVS		Identification	Final Result	Positive/ Total	
		XLD	BGA	XLD	BGA				CASE Agar	Confirmation Procedures[2]	Final Result	XLD	BGA	XLD	BGA				
Uninoculated	1	-	-	-	-	/	-	0/5	-	/	-	-	-	-	-	/	-	0/5	
	2	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-		
	3	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-		
	4	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-		
	5	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-		
Low	1	+	+	+	+	*Salmonella spp.*	+	9/20	-	/	-	-	-	-	-	/	-	8/20	
	2	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	3	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	4	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-		
	5	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-		
	6	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-		
	7	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	8	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-		
	9	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	10	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-		
	11	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-		
	12	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	13	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	14	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-		
	15	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-		
	16	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-		
	17	+	+	+	+	*Salmonella spp.*	+		-	/	-	-	-	-	-	/	-		
	18	-	-	-	-	/	-		-	/	-	-	-	-	-	/	-		
	19	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	20	-	-	-	-	/	-		+	+	+	+	+	+	+	*Salmonella* spp.	+		
High	1	+	+	+	+	*Salmonella spp.*	+	5/5	+	+	+	+	+	+	+	*Salmonella* spp.	+	5/5	
	2	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	3	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	4	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+		
	5	+	+	+	+	*Salmonella spp.*	+		+	+	+	+	+	+	+	*Salmonella* spp.	+		

[1]The alternative method samples were also subjected to a direct streak to CASE Agar from the primary enrichment and confirmed following the ISO 6579-1:2017 reference method.

[2]The confirmation procedures included testing an isolated colony via the Oxoid™ Salmonella Test Kit and Microgen Salmonella Latex Agglutination kit.

ANNEX J: Raw data from ILS

See supporting excel sheet submitted separately.