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England

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# Summary of Results

## External Quality Assessment of Food/Environmental Microbiology Environmental Swab Scheme

Distribution Number: ES16

Sample Numbers: ES0031, ES0032

Distribution Date:	August 2019
Results Due:	23 August 2019
Report Date:	30 August 2019
Samples prepared and quality control tested by:	Angela Appea Isis Asamoah Richard Borrill Margaret Njenga Jason Prehay Zak Prior Lili Tsegaye
Data analysed by:	Nita Patel Manchari Rajkumar
Report compiled by:	Nita Patel Manchari Rajkumar
Authorised by:	Nita Patel

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**Public Health England Food and Environmental Proficiency Testing Unit (FEPTU)**

61 Colindale Avenue  
London  
NW9 5EQ

Tel: +44 (0)20 8327 7119  
Fax: +44 (0)20 8200 8264  
Email: [foodeqa@phe.gov.uk](mailto:foodeqa@phe.gov.uk)

For general information about the scheme please refer to:

**Scheme Guide:**

<https://www.gov.uk/government/publications/food-and-water-proficiency-testing-schemes-scheme-guide>

For more specific information about results assessments, scoring systems, statistics, and guidance on analysing your results for the proficiency testing samples please refer to:

**Guide to Scoring and Statistics:**

<https://www.gov.uk/government/publications/food-and-water-proficiency-testing-schemes-scoring-systems-and-statistics>

**General guidance for z-scores:**

Participants' enumeration results are converted into z-scores using the following formula:

$$Z = \frac{(X_i - X_{pt})}{\sigma_{pt}}$$

$X_i$  = participants' result (expressed as a log<sub>10</sub> value)  
 $X_{pt}$  = assigned value (participants' consensus median (expressed as a log<sub>10</sub> value))  
 $\sigma_{pt}$  = the fixed standard deviation for the examination (calculated by FEPTU)

The  $\sigma_{pt}$ -value expresses the acceptable difference between the individual participant's result and the participants' consensus median. The  $\sigma_{pt}$ -value used for calculating z-scores for all parameters in the Environmental Swab Scheme is 0.35. A guide to interpreting z-scores follows, although laboratories must interpret the scores in the context of their own laboratory situation.

z = -1.99 to +1.99                      **satisfactory**  
z = -2 to -2.99 or +2 to +2.99      **questionable**  
z = < -3.00 or > + 3.00              **unsatisfactory**

It is usually recommended that z-scores exceeding  $\pm 2$  are investigated to establish the possible cause. As a general rule, PHE recommends that all questionable and unsatisfactory results are investigated.

**FEPTU Quality Control:** To demonstrate homogeneity of the sample, a minimum of 10 LENTICULE® discs, selected randomly from a batch, are tested in duplicate for parameters requiring enumeration and 10 LENTICULE discs are examined for pathogen detection.

To demonstrate stability of the sample, a minimum of six LENTICULE discs, selected randomly from a batch, are examined throughout the distribution period, either for enumeration or pathogen detection.

FEPTU results are determined using Public Health England method: Detection and Enumeration of Bacteria in Swabs and other Environmental Samples. Document number FNE54; version 4.

The intended results letters provide guidance for participants regarding the assigned values.

Refer to section 17.0 of the Scheme Guide if you have experienced difficulties with any of the examinations.

<https://www.gov.uk/government/publications/food-and-water-proficiency-testing-schemes-scheme-guide>

Please contact FEPTU staff for advice and information:

<b>Repeat samples</b>	Carmen Gomes or Kermin Daruwalla	<b>Tel:</b> +44 (0)20 8327 7119
<b>Data analysis</b>	Manchari Rajkumar or Nita Patel	<b>Fax:</b> +44 (0)20 8200 8264
<b>Microbiological advice</b>	Nita Patel or Zak Prior	<b>Email:</b> foodeqa@phe.gov.uk
<b>General comments and complaints</b>	Nita Patel or Zak Prior	<a href="#">FEPTU's website</a>
<b>Scheme consultants</b>	Nicola Elviss	
<b>Scheme co-ordinator</b>	Nita Patel	

**Accreditation:** PHE Food EQA Scheme for Environmental Swab is accredited by the United Kingdom Accreditation Service (UKAS) to ISO/IEC 17043:2010.



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## Swab Sample: ES0031

**Sample type:** On Monday 29 July 2019, the local food authority noticed that 55 people from the public had reported fever, chills and diarrhoea. Further interviews with the affected individuals which ranged from 2 to 88 years of age, indicates that they had all eaten frozen profiteroles and mini eclairs produced by a national manufacturer. 19 individuals have been hospitalised with at least two deaths in elderly patients within 24/48 hours of consumption.

**Request:** Examine samples following your routine protocol for pathogens based on the outbreak scenario provided

### Contents:

*Salmonella* Enteritidis 1.0x10<sup>2</sup> 1,9,12: g,m: – (wild strain), *Aerococcus viridans* 1.9x10<sup>3</sup> (wild strain), *Enterococcus faecalis*

1.2x10<sup>3</sup> (wild strain), *Escherichia coli* 1.6x10<sup>3</sup> (wild strain)

### Expected Results:

Examination	Expected Result	Your Result	Score for performance assessment	Z-score
<i>Listeria monocytogenes</i>	Not Detected			
<i>Salmonella</i> spp.	Detected			
Coagulase-positive staphylococci	<10 cfu per swab			
<i>Campylobacter</i> spp.	Not Detected			

### Comments on Performance:

<b><i>Listeria monocytogenes</i></b>	
Total participants reporting for <i>Listeria monocytogenes</i>	32
Participants reporting correctly	30 (94%)
<b><i>Salmonella</i> spp.</b>	
Total participants reporting for <i>Salmonella</i> spp.	31
Participants reporting correctly	30 (97%)
<b>Coagulase-positive staphylococci</b>	
Total participants reporting for Coagulase-positive staphylococci	24
Participants reporting a low censored value	18
<b><i>Campylobacter</i> spp.</b>	
Total participants reporting for <i>Campylobacter</i> spp.	10
Participants reporting correctly	10 (100%)
Total sent samples	41
Non-returns	2
Not examined	3

## Swab Sample: ES0032

**Sample type:** A total of eight members of the public age ranges 26-82 including an elderly patient hospitalised have reported becoming ill after consuming meat from one specific deli counter located locally. The individuals complained of diarrhoea, flu-like symptoms, fatigue and muscle aches.

**Request:** Examine samples following your routine protocol for pathogens based on the outbreak scenario provided

### Contents:

*Listeria monocytogenes* 53 (wild strain), *Enterococcus faecium* 1.6x10<sup>3</sup> (wild strain), *Pseudomonas aeruginosa* 6.8x10<sup>2</sup>

(wild strain)

### Expected Results:

Examination	Expected Result	Your Result	Score for performance assessment	Z-score
<i>Listeria monocytogenes</i>	Detected			
<i>Salmonella</i> spp.	Not Detected			
Coagulase-positive staphylococci	<10 cfu per swab			
<i>Campylobacter</i> spp.	Not Detected			

### Comments on Performance:

#### *Listeria monocytogenes*

Total participants reporting for <i>Listeria monocytogenes</i>	31
Participants reporting correctly	29 (94%)

#### *Salmonella* spp.

Total participants reporting for <i>Salmonella</i> spp.	33
Participants reporting correctly	33 (100%)

#### Coagulase-positive staphylococci

Total participants reporting for Coagulase-positive staphylococci	17
Participants reporting a low censored value	13

#### *Campylobacter* spp.

Total participants reporting for <i>Campylobacter</i> spp.	12
Participants reporting correctly	11 (92%)

Total sent samples	41
Non-returns	2
Not examined	3

## Comments for distribution ES16

### Sample ES0031

36 laboratories analysed the sample from this distribution. The pathogen in this sample was *Salmonella* Enteritidis.

The table below shows the additional examinations carried out by the laboratories and the reported results. Results highlighted in red are incorrect.

Additional examinations	Number of laboratories examining	Reported results
<i>Bacillus cereus</i>	3	<200 (2) <100 (1)
<i>Clostridium perfringens</i>	1	<100 (1)
<i>Cronobacter sakazakii</i>	1	Not detected (1)
<i>Escherichia coli</i> O157	10	Not detected (8) Detected (2)
<i>Vibrio cholerae</i>	1	Not detected (1)
<i>Vibrio parahaemolyticus</i>	1	Not detected (1)

### Sample ES0032

36 laboratories analysed the sample from this distribution. The pathogen in this sample was *Listeria monocytogenes*.

The table below shows the additional examinations carried out by the laboratories and the reported results.

Additional examinations	Number of laboratories examining	Reported results
<i>Bacillus cereus</i>	3	<200 (2) <100 (1)
<i>Clostridium perfringens</i>	5	<100 (3) <10 (1) 0 (1)
<i>Cronobacter sakazakii</i>	1	Not detected (1)
<i>Escherichia coli</i> O157	11	Not detected (11)
<i>Vibrio cholerae</i>	1	Not detected (1)
<i>Vibrio parahaemolyticus</i>	1	Not detected (1)

### General comments

If your laboratory does not examine for a certain pathogen/s that is potentially implicated in an outbreak you must return a result of 'Not examined' for that pathogen when entering your results online. This will ensure that your laboratory is awarded a correct score.

If you do not return a result for a distribution, you will not be able to view all the participants' results data in your individualised report. Please contact us if you require this information on [foodeqa@phe.gov.uk](mailto:foodeqa@phe.gov.uk)

End of report

Example Report