



# Summary of Results

## External Quality Assessment of Food Microbiology Shellfish Scheme

Distribution Number: SF072

Sample Numbers: SF0152, SF0153

Distribution Date:	<b>November 2022</b>
Results Due:	<b>09 December 2022</b>
Report Date:	<b>14 December 2022</b>
Samples prepared and quality control tested by:	<b>Divya George Nafeesa Hussain Cansev Katar Margaret Njenga Zak Prior Jake Videlefsky</b>
Data analysed by:	<b>Joanna Donn Nita Patel</b>
Report compiled by:	<b>Joanna Donn Nita Patel</b>
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This scheme provides external quality assessment samples for laboratories that examine live bivalve mollusc flesh (and intervalvular fluid) for the enumeration of *Escherichia coli*. This scheme is based upon the use of ISO 16649-3, Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of  $\beta$ -glucuronidase-positive *E. coli* Part 3: Most probable number technique using 5-bromo-4-chloro-3-indolyl- $\beta$ -D-glucuronide. This is the European Union reference method for enumeration of *E. coli* in live bivalve molluscs. However, the scheme may also be appropriate for other methods used in laboratories for the enumeration of *E. coli* in bivalve molluscan shellfish flesh (and intervalvular fluid) including those approved by the EU's Standing Committee on Food Chain and Animal Health (SCoFCAH) for use in compliance with EU Regulations.

Protocols for the application for selected methods are available for download at

<https://www.cefasc.org.uk/centres-of-excellence/seafood-safety>

For further information on 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 system and statistics:**

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

**FEPTU Quality Control:** To demonstrate stability of the sample, a minimum of six LENTICULE® discs, selected randomly from a batch, are examined throughout the distribution period for *E. coli* enumeration and for *Salmonella* detection.

FEPTU results are determined using methods based on ISO methods and are included in the 'intended results' letters which provide guidance for participants regarding the assigned values.

Intended results letters are posted on the website immediately after every distribution; electronic notification of their availability is sent to all participants.

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>

All participants are reminded that reporting an incorrect or incomplete result or identification of pathogens from food samples could have serious public health implications. Similarly, the levels of micro-organisms reported in the sample may affect the subsequent outcome for the product.

Reporting an incorrect result for the *Escherichia coli* most probable number (MPN) may affect the classification of the harvesting area and the subsequent treatment of the live bivalve molluscs.

Incorrect reporting of results for *Salmonella* may affect the subsequent outcome for the product and could have serious public health implications

**Participants are reminded that the purpose of scoring is to draw attention to incorrect or outlying results. Results as summarised in the performance assessment sheet included in this report, provide a more effective indication of on-going problems with food microbiology examinations.**

Please contact FEPTU or Cefas 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>	Nita Patel	<b>Fax:</b>
<b>Microbiological advice</b>	Nita Patel or Zak Prior	<b>Email:</b> foodeqa@ukhsa.gov.uk
<b>General comments and complaints</b>	Nita Patel or Zak Prior	<a href="#">FEPTU's website</a>
<b>Scheme consultants</b>	Louise Stockley	<b>Tel:</b> +44 (0)1305 206 644
<b>Scheme Co-ordinator</b>	Nita Patel	<b>Email:</b> louise.stockley@cefasc.org.uk

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



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**Sample: SF0152**

Description: Raw shellfish from a new shellfish bed

**Contents:**

\**Escherichia coli* ( $4.9 \times 10^2 - 4.9 \times 10^3$ ) (wild strain), *Salmonella* Stanley 1,4,[5],12,[27]:d:1,2 (4 per disc) (wild strain), *Proteus mirabilis* ( $1.2 \times 10^2$ ) (wild strain), *Pseudomonas aeruginosa* ( $2.3 \times 10^4$ ) (wild strain)

All levels are presented as colony forming units (cfu) per ml reconstituted sample unless otherwise stated

\* MPN per 100ml reconstituted sample

**Expected Results:**

Examination	Expected Result	Your Result		
		Replicate 1	Replicate 2	Score
<i>E. coli</i> ~MPN~	3.5x10 <sup>2</sup> - 8.3x10 <sup>3</sup> per 100g			Not Examined
		Comments:		
<i>Salmonella</i> spp.	Detected in 25g			
		Comments:		

*E. coli* MPN values reported are summarised in Fig.1

<b><i>E. coli</i></b>	
Total participants reporting duplicate results for <i>E. coli</i> MPN	65
Participants reporting a single MPN result only	1
Participants reporting MPN results within the expected range for both replicates	61
Participants reporting MPN results outside expected range for both replicates	1
Participants reporting MPN result outside expected range for one replicate only	3
Participants reporting tube combination inconsistent with MPN reported	8
Participants reporting censored values for one replicate	0
Participants reporting censored values for both replicates	1
Assigned value (participants' median MPN result )	1.7x10 <sup>3</sup> per 100 g
Participants' mean MPN result	2.2x10 <sup>3</sup> per 100 g
Standard deviation (SD) of participants' results	0.30 log <sub>10</sub> unit per 100g
FEPTU QC median MPN result	1.3x10 <sup>3</sup> per 100 g

<b><i>Salmonella</i> spp.</b>	
Total participants reporting for <i>Salmonella</i> spp.	57
Total participants reporting the <b>presence</b> of <i>Salmonella</i> spp.	55 (96%)

Total sent sample	71
Non-returns	3
Not examined	2

**Sample: SF0153**

Description: Raw shellfish from a new shellfish bed

**Contents:**

\**Escherichia coli* (2.4x10<sup>4</sup> – 9.2x10<sup>4</sup>) (wild strain), *Bacillus circulans* (7.4x10<sup>3</sup>) (wild strain), *Klebsiella oxytoca* (1.6x10<sup>4</sup>) (wild strain), *Providencia rettgeri* (1.6x10<sup>4</sup>) (NCTC 11801)

All levels are presented as colony forming units (cfu) per ml reconstituted sample unless otherwise stated

\* MPN per 100ml reconstituted sample

**Expected Results:**

Examination	Expected Result	Your Result		
		Replicate 1	Replicate 2	Score
<i>E. coli</i> ~MPN~	1.1x10 <sup>4</sup> - 2.7x10 <sup>5</sup> per 100g			Not Examined
		Comments:		
<i>Salmonella</i> spp.	Not detected in 25g			
		Comments:		

*E. coli* MPN values reported are summarised in Fig.2

<b><i>E. coli</i></b>	
Total participants reporting duplicate results for <i>E. coli</i> MPN	65
Participants reporting a single MPN result only	1
Participants reporting MPN results within the expected range for both replicates	58
Participants reporting MPN results outside expected range for both replicates	4
Participants reporting MPN result outside expected range for one replicate only	3
Participants reporting tube combination inconsistent with MPN reported	11
Participants reporting censored values for one replicate	1
Participants reporting censored values for both replicates	4
Assigned value (participants' median MPN result)	5.4x10 <sup>4</sup> per 100 g
Participants' mean MPN result	5.2x10 <sup>4</sup> per 100 g
Standard deviation (SD) of participants' results	0.30 log <sub>10</sub> unit per 100g
FEPTU QC median MPN result	3.5x10 <sup>4</sup> per 100 g

<b><i>Salmonella</i> spp.</b>	
Total participants reporting for <i>Salmonella</i> spp.	57
Total participants reporting the <b>absence</b> of <i>Salmonella</i> spp.	57 (100%)

Total sent sample	71
Non-returns	3
Not examined	2

## Performance Assessment Sheet

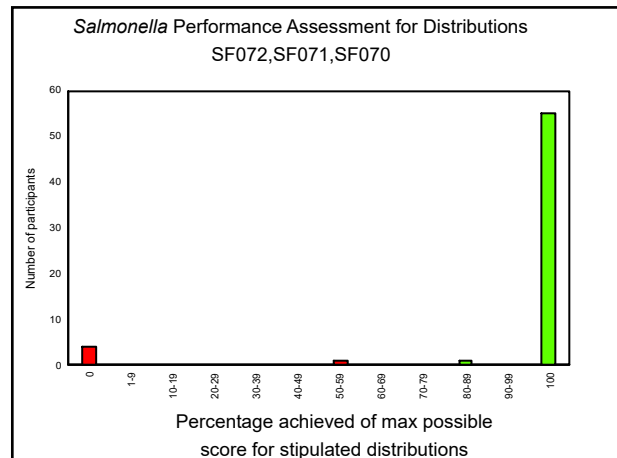
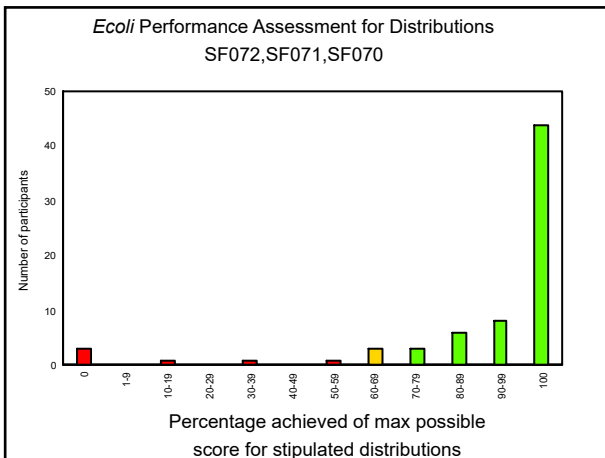
Participants are reminded that to take advantage of the performance assessment overtime tool provided in the reports they need to take part in more than one distribution a year.

Performance assessments are designed to identify laboratories with on-going problems with their examinations and are undertaken after every distribution. Scores are allocated to results reported for every sample to help assess participants' performance.

Cumulative scores are calculated for every participant, for all examination types, for the current and previous two distributions. Participants' cumulative scores for each of the examination types are compared with the maximum possible scores after every distribution.

Your laboratory performed 6 examinations for the last 3 distributions.

Distribution	Sample	<i>E.coli</i> score	Your % per distribution	<i>Salmonella</i> sp. score	Your % per distribution
SF072	SF0152				
	SF0153				
SF071	SF0150				
	SF0151				
SF070	SF0148				
	SF0149				
Total maximum possible score					



### Performance Assessment Comment:

Laboratories that achieve less than 70% of the maximum possible score are likely to be experiencing significant problems with their examinations and are advised to

- refer to the relevant sample reports for specific comments
- refer to the website guidance documents: <https://www.gov.uk/government/collections/external-quality-assessment-ega-and-proficiency-testing-pt-for-food-water-and-environmental-microbiology>
- contact the organisers for advice.

100,000

Fig. 1: SF0152 MPN Results

Key: X SF0152 Replicate 1

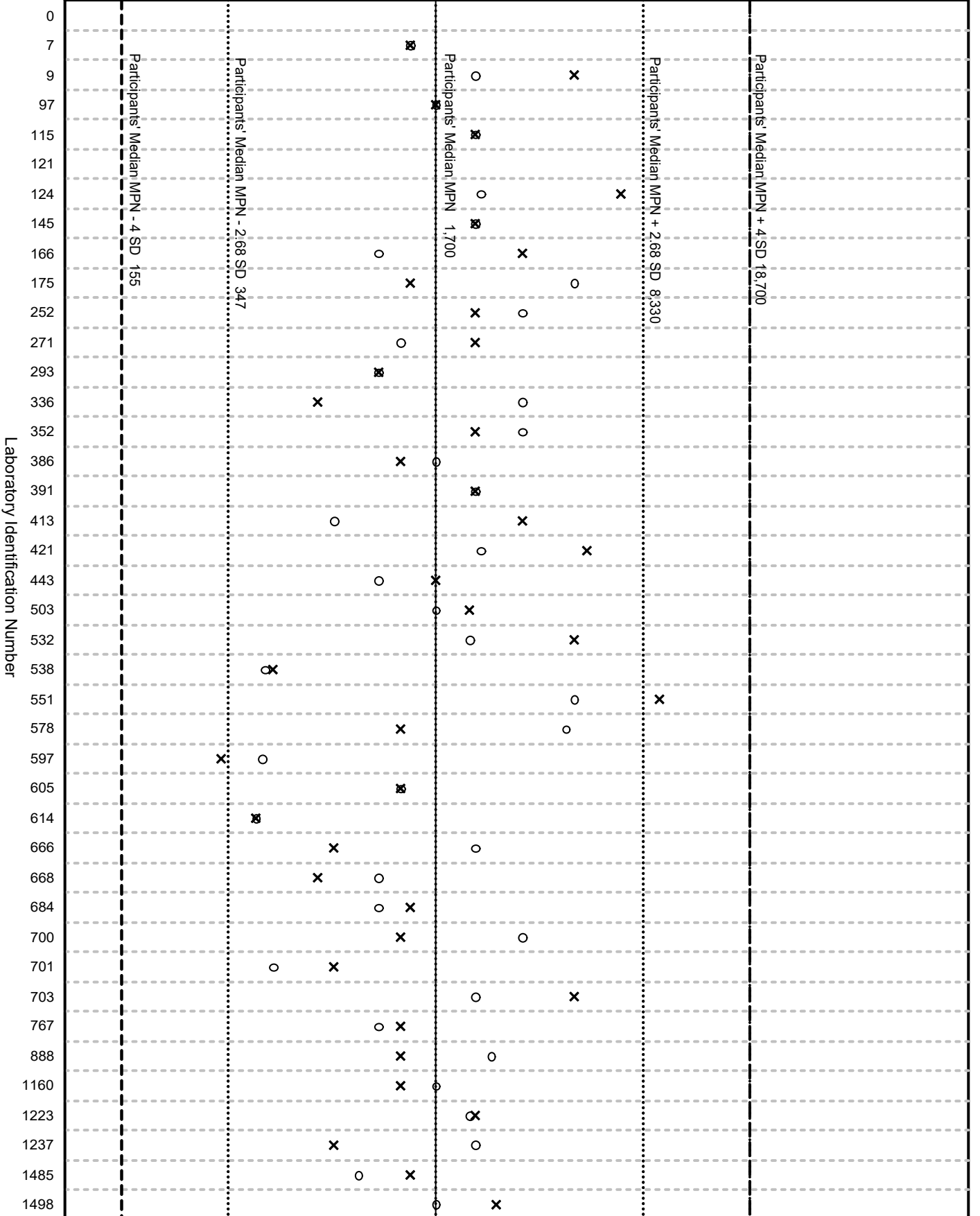
O SF0152 Replicate 2

MPN per 100g

10,000

1,000

100



MPN per 100g

100,000

10,000

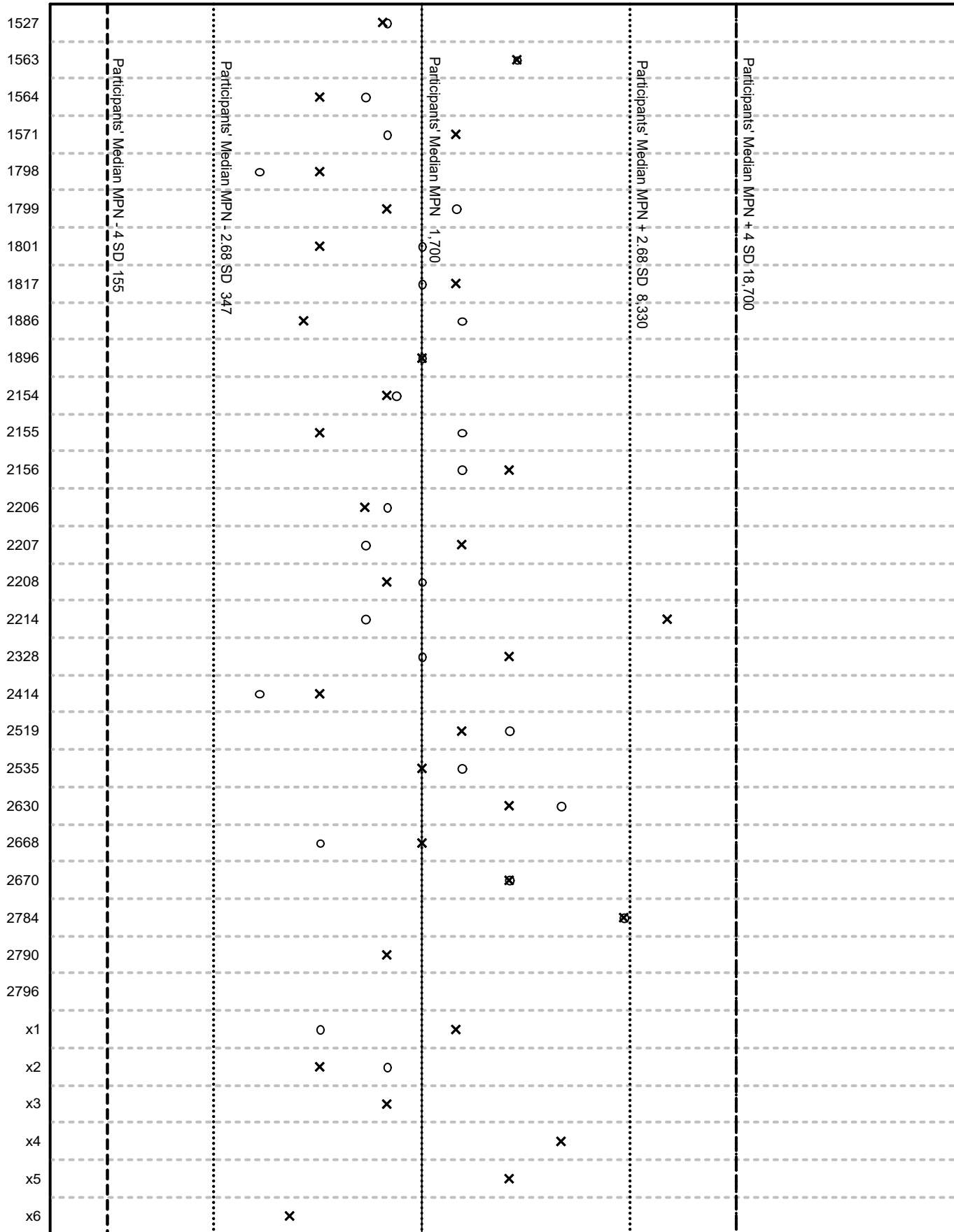
1,000

100

Fig. 1 (cont'd): SF0152 MPN Results

Key: X SF0152 Replicate 1 O SF0152 Replicate 2

Laboratory Identification Number



Participants' Median MPN -4 SD: 155

Participants' Median MPN +4 SD: 18,700

Participants' Median MPN -2.68 SD: 347

Participants' Median MPN +2.68 SD: 8,330

Participants' Median MPN -1,700

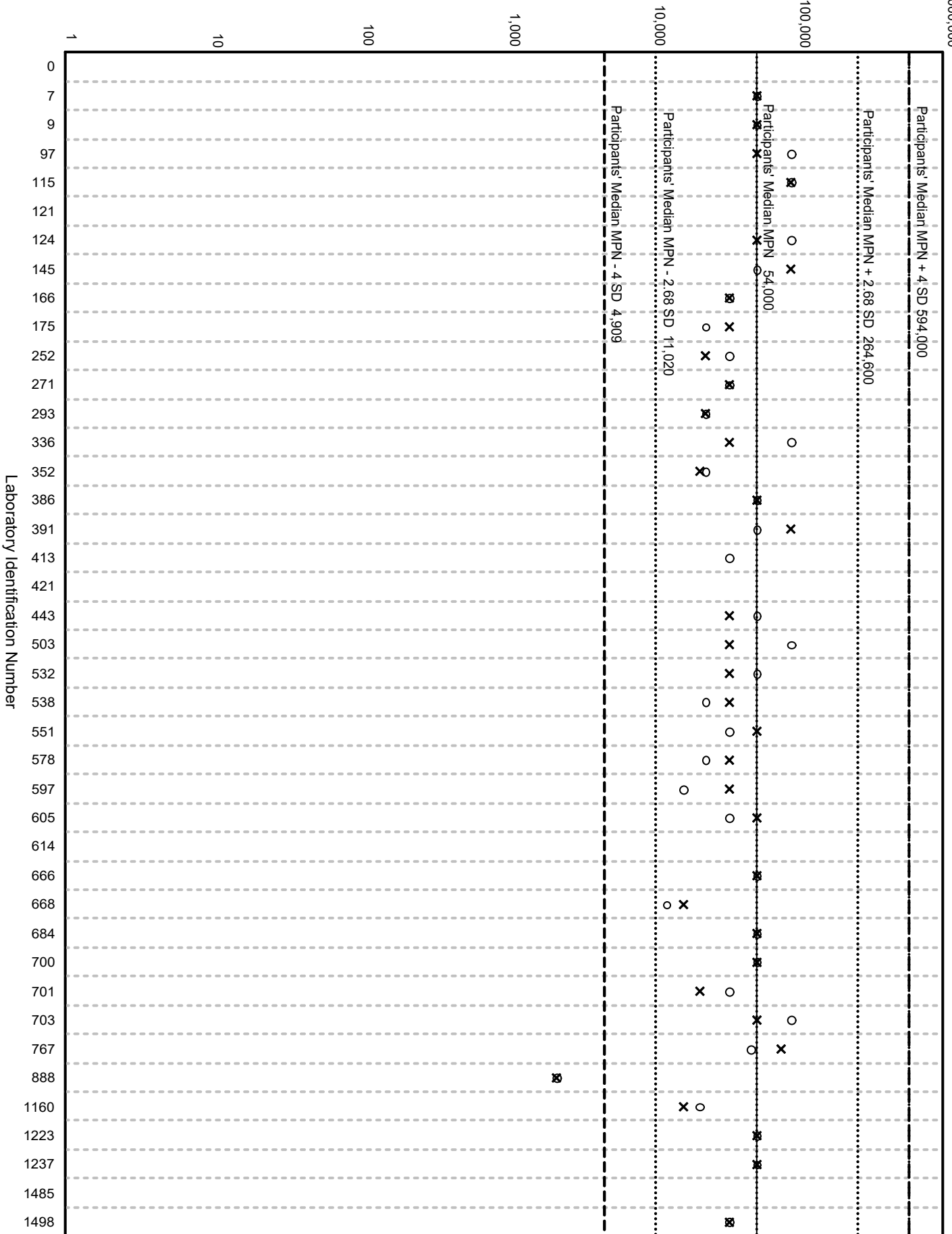
Participants' Median MPN +1,700

1,000,000

Fig. 2: SF0153 MPN Results

Key: X SF0153 Replicate 1 O SF0153 Replicate 2

MPN per 100g



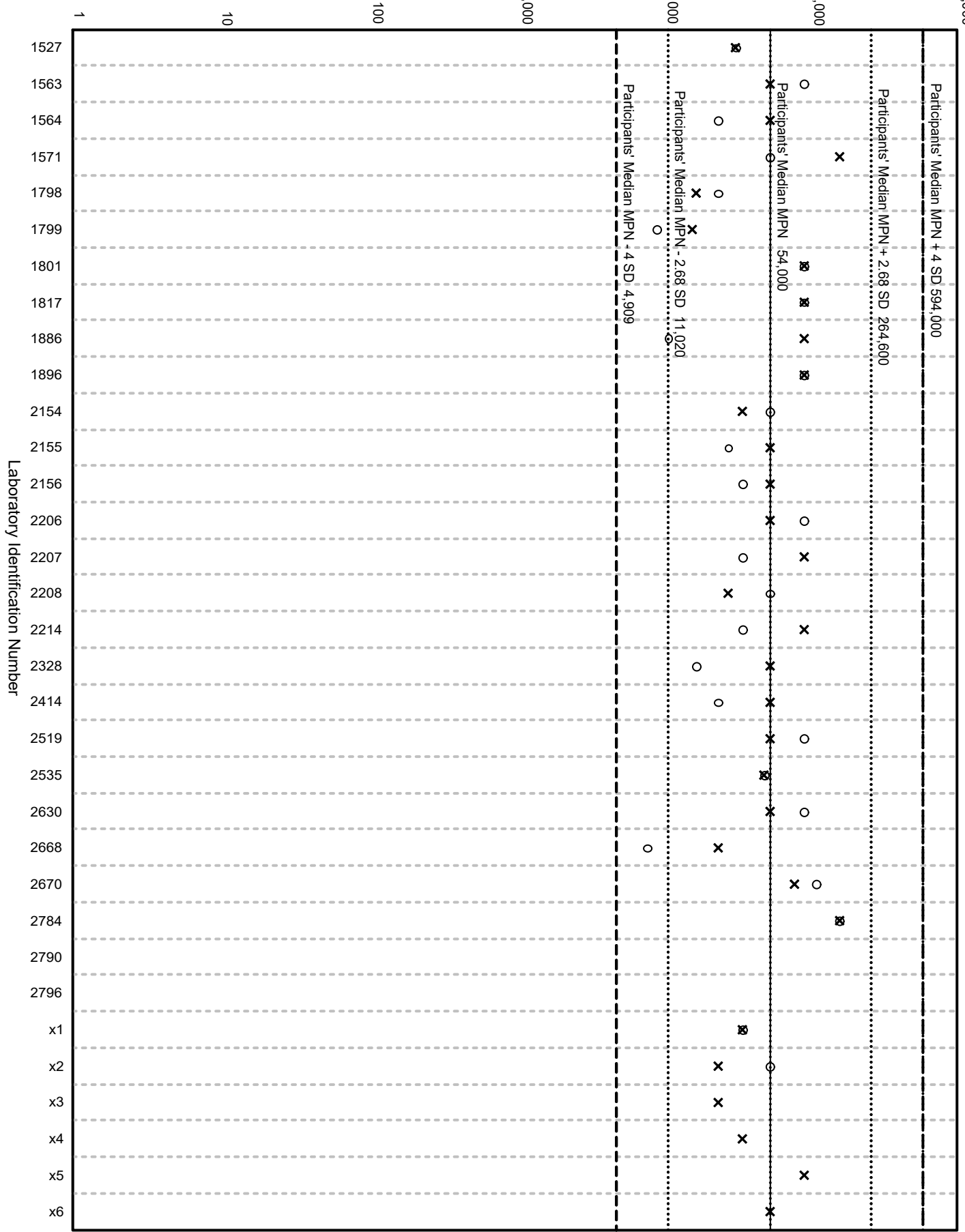


1,000,000

Fig. 2 (cont'd): SF0153 MPN Results

Key: X SF0153 Replicate 1 O SF0153 Replicate 2

MPN per 100g



**General comments:**

Laboratories designated as an Official Control Laboratory within their country must report their MPN results in accordance with ISO 7218:2007/Amd.1:2013. All dilutions examined must be reported; therefore 2 points have been deducted for each replica when this has not been done.

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. To access this missing data contact us on [foodeqa@ukhsa.gov.uk](mailto:foodeqa@ukhsa.gov.uk).

**Trend analysis:**

Plotting your PT results over a period of time can help to identify potential problems. If you need the latest file please email us on [foodeqa@ukhsa.gov.uk](mailto:foodeqa@ukhsa.gov.uk).

