

M10

Combination Pathogen Program in Meat Matrix

Salmonella, E.coli O157:H7 & L. monocytogenes

6-03-19 (Shipment Date)

7-18-19 (Report Issue Date)



Proficiency Testing Provider
Certificate 1782.01

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Report Authorization

This report has been authorized by Arlene Fox, Senior Director of the AOAC laboratory Proficiency Testing Program.

A handwritten signature in black ink that reads "Arlene Fox". The signature is written in a cursive, flowing style.

**REPORT TO PARTICIPANTS IN
THE AOAC® LABORATORY PROFICIENCY TESTING PROGRAM**

**COMBINATION MEAT MICROBIOLOGY PROGRAM
Salmonella, *E. coli* O157:H7, *L. monocytogenes***

1.0 Introduction

Test materials for the Combination Meat Microbiology Program (*Salmonella*, *E. coli* O157:H7 and *L. monocytogenes*) were shipped to participants on June 3, 2019. Each laboratory was given a site identification number in order to maintain confidentiality. Participants were encouraged to analyze the samples on June 4, 2019 and urged to initiate analyses by Monday, June 10, 2019. The instruction packet on how to use the confidential online data submission system was posted online. The participants were to submit an electronic response online to verify the condition of the test materials upon receipt and confirm the safe handling of the test materials containing *Salmonella*, *E. coli* O157:H7, *L. monocytogenes* by participants. Participants were also instructed to report results electronically. Participants were instructed to analyze the test materials according to procedures routinely used in their laboratories. Instructions were provided for all dilutions. The results were recorded and were to be submitted to AOAC by June 18, 2019.

2.0 Preparation of Test Materials

Each set of test materials included twelve samples, each containing approximately 25 grams of frozen ground or processed meat. All of the samples were for qualitative testing. The matrix was screened prior to spiking. For samples 1-4 *Salmonella*, the following serotype was used for inoculation: *S. typhimurium*. Duplicate samples were selected to verify the serotypes. For the inoculation scheme, two samples were individually inoculated at a low level (1 - 10 cells/g) and two controls were uninoculated.

For samples 5-8, *E. coli* O157:H7 three duplicate samples were selected to verify the presence or absence of *E. coli* O157: H7. For the inoculation scheme, two samples were individually inoculated and two controls were uninoculated.

For samples 9-12, *Listeria monocytogenes*, three duplicate samples were selected to verify the presence or absence of *Listeria monocytogenes*. For the inoculation scheme, samples were individually inoculated with approximately 276 cells/gram of organisms. One sample was inoculated with *Listeria monocytogenes*, one sample was inoculated with *Listeria innocua* and two samples were uninoculated.

Samples were prepared by the following laboratory:

Silliker Solution Center
3600 Eagles Nest Drive, Bldg. A
Crete, IL 60417

3.0 Analyses Requested

Samples 1-4	<i>Salmonella</i> species	Indicate Present/Absent
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The participants had the option of identifying the serotype. Information on the method used for each analyses was requested.

Samples 5-8	<i>E. coli</i> O157:H7	Indicate Positive/Negative
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The participants had the option of not testing for H7 if the laboratory does not routinely do that test as part of the analysis. Information on the method used for each analyses was requested.

Samples 9-12	<i>L. monocytogenes</i>	Indicate Present /Absent
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Information on the method used for each analyses was requested.

4.0 Results

Confidentiality of results will be maintained by issuing site identification codes to the participants. Results in reports will only be identified by the site identification code. Results of participants were compared to the expected results. There was inadequate information about the methodology used to group the results according to method for this shipment.

If a participant would like to appeal against the assessment of their performance in this proficiency testing scheme please contact staff at LPTP@AOAC.org

Individual laboratory results are in Appendix A

Results for (M10) Meat Microbiology Program
Salmonella, E. coli O157:H7 , and Listeria

Shipment on June 3, 2019
site identification: xxxxx

Salmonella

Sample Number	Expected Results	Result for Site ID xxxxx Presence or Absence of <i>Salmonella</i> Species	Result for Site ID xxxxx O Antigen	Result for Site ID xxxxx H Antigen
S1	S.typhimurium O Antigen: B H Antigen: i, 1 complex	Present	Not Tested	Not Tested
S2	S.typhimurium O Antigen: B H Antigen: i, 1 complex	Present	Not Tested	Not Tested
S3	Uninoculated	Absent	Not Tested	Not Tested
S4	Uninoculated	Absent	Not Tested	Not Tested

Appendix A
***E. coli* O157:H7**

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Sample Number	<i>E. coli</i> O157:H7 Expected Results	Result for Site ID xxxxx Presence or Absence of <i>E. coli</i> O157:H7 species	Special Comments
E5	Uninoculated N/A Absent	<i>E. coli</i> O157:H7 Absent	
E6	<i>E. coli</i> O157:H7 Present	<i>E. coli</i> O157:H7 Present	
E7	Uninoculated N/A Absent	<i>E. coli</i> O157:H7 Absent	
E8	<i>E. coli</i> O157:H7 Present	<i>E. coli</i> O157:H7 Present	

Appendix A
Listeria

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Sample Number	<i>Listeria monocytogenes</i> Expected Results	Result for Site ID xxxxx Presence or Absence of <i>Listeria monocytogenes</i>	Special Comments
L9	Listeria monocytogenes Absent	Listeria monocytogenes Absent	
L10	Listeria monocytogenes Absent	Listeria monocytogenes Absent	L. innocua
L11	Listeria monocytogenes Present	Listeria monocytogenes Present	L. monocytogenes present
L12	Listeria monocytogenes Absent	Listeria monocytogenes Absent	



The Scientific Association Dedicated to Analytical Excellence®

AOAC® Laboratory Proficiency Testing Program Combination Meat Microbiology (M10) Instructions

Enclosed are twelve samples, each containing 25 grams of ground or processed meat. Shelf-life studies performed on samples stored frozen demonstrated that the samples remained stable for a period of at least 7 days if stored frozen.

Please make every effort to analyze samples as soon as possible. Results are due within 2 weeks of the shipment date.

Store samples frozen (-20 °C) until analysis date. Thaw when ready to analyze by placing the samples into a plastic bag in cold water for 1 -2 hours. Do **not** refreeze the samples.

Analyze samples numbered 1 through 4 for the following:

Salmonella species - Specify the method. Report as POSITIVE or NEGATIVE. If POSITIVE, report the O and the H serotypes. If your laboratory does not test for O and H serotypes, fill in the boxes for NOT TESTED.

Analyze samples numbered 5 through 8 for the following:

***E. coli* O157:H7** - Specify the method. Report as POSITIVE or NEGATIVE. Use the comment section to provide additional information.

Analyze samples numbered 9 through 12 for the following:

Listeria monocytogenes - Specify the method. Report as POSITIVE or NEGATIVE. Use the comment section to provide additional information.

Appendix C
Homogeneity Results - Qualitative
Meat Microbiology - M10
Ship Date June 3, 2019

Results of Homogeneity Testing - *Salmonella* 25g Sample

	Inoculation Scheme	Results		O antigen	H antigen	Expected Serotype	
		Replicate 1	Replicate 2				
S-2	<i>S. Typhimurium</i>	positive	positive	B	i	B (O): i, 1 complex (H)	Passed
S-3	Uninoculated	negative	negative	NA	NA	NA	Passed

Results of Homogeneity Testing - *E. coli* O157:H7 25g Sample

	Inoculation Scheme	Results		Serotype	
		Replicate 1	Replicate 2		
E-6	<i>E. coli</i> O157:H7 - LOW	positive	positive	O157:H7	Passed
E-7	Uninoculated	negative	negative	NA	Passed
E-8	<i>E. coli</i> O157:H7 - HIGH	positive	positive	O157:H7	Passed

Results of Homogeneity Testing - *Listeria* spp. 25g Sample

	Inoculation Scheme	Replicate 1	Replicate 2	
L-10	<i>L. innocua</i>	positive	positive	Passed
L-11	<i>L. monocytogenes</i>	positive	positive	Passed
L-12	Uninoculated	negative	negative	Passed

Appendix D

Inoculation Scheme
Meat Microbiology - M10
Ship Date June 3, 2019

	Inoculation Scheme
S-1	<i>S. Typhimurium</i>
S-2	<i>S. Typhimurium</i>
S-3	Uninoculated
S-4	Uninoculated

	Inoculation Scheme
E-5	Uninoculated
E-6	<i>E. coli</i> O157:H7 - LOW
E-7	Uninoculated
E-8	<i>E. coli</i> O157:H7 - HIGH

	Inoculation Scheme
L-9	Uninoculated
L-10	<i>L. innocua</i>
L-11	<i>L. monocytogenes</i>
L-12	Uninoculated