



CERTIFICATION

AOAC Research Institute *Performance Tested Methods*SM

Certificate No.
050601

The AOAC Research Institute hereby certifies the method known as:

RAPID'E. coli 2 Agar

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Hercules, CA 94547
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A handwritten signature in black ink that reads "Scott Coates".

Scott Coates, Senior Director
Signature for AOAC Research Institute

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METHOD NAME RAPID'E. coli 2 Agar	CATALOG NUMBER 355-5299, 356-4024
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INDEPENDENT LABORATORY rtech Laboratories 4001 Lexington Avenue North Arden Hills, MN 55112 USA

APPLICABILITY OF METHOD Target organism – <i>Escherichia coli</i> and non- <i>E. coli</i> Coliform bacteria. Matrixes – cottage cheese, processed ricotta cheese, raw milk, dry infant formula, raw ground beef, raw boneless pork, fermented sausage, processed ham, processed turkey, frozen turkey breast, raw ground chicken Performance claims – REC2 agar allows for enumeration and differentiation of <i>E. coli</i> and other coliform bacteria in 24 hr.	REFERENCE METHOD AOAC International. AOAC Official Method 966.24 – Coliform Group and <i>Escherichia coli</i> in Tree Nut Meats from Section 17.2.02 – Microbiological Methods / Chilled, Frozen, Precooked, or Prepared Foods, and Nutmeats. (2)
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ORIGINAL CERTIFICATION DATE April 10, 2006	CERTIFICATION RENEWAL RECORD Renewed annually through December 2024.
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METHOD MODIFICATION RECORD 1. January 2020 Level 1 2. January 2021 Level 1 3. November 2021 Level 1 4. October 2023 Level 1	SUMMARY OF MODIFICATION 1. Editorial/clerical changes. 2. Editorial/clerical changes. 3. Editorial changes and addition of user information in French, German, Spanish, Portuguese, and Italian. 4. Editorial/clerical changes.
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PRINCIPLE OF THE METHOD (1)

The principle of RAPID'E. coli 2 (REC2) medium relies on simultaneous detection of two enzymatic activities, Beta-D-Glucuronidase (GLUC) and Beta-D-Galactosidase (GAL). The medium contains two chromogenic substrates. One substrate is specific to GAL and results in blue coloration of colonies positive for this enzyme and one substrate is specific to GLUC and results in pink coloration of colonies positive for this enzyme. Coliforms, other than *E. coli*, (GAL+/GLUC-) form blue to green colonies while, specifically, *E. coli* (GAL+/GLUC+) form violet to pink colonies. A count of total coliforms can be obtained by adding the number of blue colonies and the number of violet colonies.

DISCUSSION OF THE VALIDATION STUDY (1)

REC2 agar is a chromogenic media for direct enumeration of coliforms and *E. coli* in food. Direct comparison of an MPN method for enumeration and a direct plating method for enumeration can be somewhat misleading. Many of the statistical differences observed can be attributed to method differences. The samples were processed in different media. MPN analysis is based on statistical probability in a mixed liquid culture whereas direct plating method is based on enumeration of individual colonies grown from viable cells on solid medium, which can be selected off of the plate and confirmed. For certain foods, fermented sausage, for example, MPN results yielded lower counts than the REC2 method, however, the REC2 results were consistent at both incubation temperatures. This would suggest better recovery with the REC2 method. In other cases, chicken nuggets for example, target inoculum levels of one log difference were achieved when analyzing the REC2 results, however, not with the MPN method. The REC2 results were more consistent with the target inoculum levels than the MPN results. The data collected at 44°C was generally more reproducible than the data collected at 37°C. The higher temperatures allowed the target organisms to thrive compared to competing background flora. Incubating plates at higher temperatures is similar to the standard method for isolating *E. coli* from EC broth at 45°C. The REC2 results for the dairy food group at 44°C, overall, showed less recovery than the other two methods. While some differences in total counts were observed between the AOAC method and the REC2 method, nearly all typical colonies from REC2 agar were confirmed as either *E. coli* or other coliforms. In this study, REC2 greatly reduced the time to results by days over the MPN method. In addition, multiple tubes of media were not required to process samples. After evaluation, eleven of the seventeen foods tested were selected for the Performance Tested Method claim (raw ground beef, raw boneless pork, fermented sausage, processed ham, processed turkey, frozen turkey breast, raw ground chicken, cottage cheese, processed ricotta cheese, raw milk, and dry infant formula). Cottage cheese and processed ricotta cheese produced results consistent with the AOAC Method at 37°C only, so the validated claim is limited to this temperature. Results for processed roast beef, chicken nuggets, raw chicken breast, vanilla ice cream, raw fish fillet and lettuce were not optimal, so these foods were excluded from the claim.

Table 1 – Inclusivity Study: Coliform and *E. coli* strains tested on REC2 agar at 37°C and 44°C as compared to Plate Count Agar (1)

Organism ^a	Source	REC2 37°C		REC2 44°C		PCA
		cfu/plate	color	cfu/plate	color	cfu/plate
<i>Citrobacter diversus</i>	Animal feed	120	blue	118	blue	146
<i>Citrobacter diversus</i>	Beef	112	blue	120	blue	132
<i>Citrobacter diversus</i>	Yeast	152	blue	110	blue	136
<i>Citrobacter diversus</i>	Beef	140	blue	152	blue	143
<i>Citrobacter diversus</i>	Beef	123	blue	160	blue	164
<i>Citrobacter diversus</i>	Pet food	99	blue	123	blue	112
<i>Citrobacter freundii</i>	Fish	40	blue	40	light blue	39
<i>Citrobacter freundii</i>	Lettuce	58	blue	54	light blue	55
<i>Citrobacter freundii</i>	Milk	44	blue	44	light blue	38
<i>Citrobacter freundii</i>	Ham	56	blue	59	light blue	59
<i>Citrobacter freundii</i>	Cake	46	blue	46	light blue	33
<i>Citrobacter freundii</i>	Pork	50	blue	45	light blue	51
<i>Citrobacter freundii</i>	Cheese	67	blue	67	light blue	66
<i>Citrobacter freundii</i>	Cucumber	93	blue	90	light blue	90
<i>Enterobacter amnigenus</i>	Cheese	87	blue	87	blue	96
<i>Enterobacter amnigenus</i>	Beef	76	blue	76	blue	71
<i>Enterobacter amnigenus</i>	Tomato	70	blue	70	blue	60
<i>Enterobacter amnigenus</i>	Cheese	73	blue	73	blue	67
<i>Enterobacter cloacae</i>	Mayonnaise	91	blue	91	blue	86
<i>Enterobacter cloacae</i>	Sausage	75	blue	75	blue	81
<i>Enterobacter cloacae</i>	Chicken liver	50	blue	50	blue	48
<i>Enterobacter cloacae</i>	Milk	42	blue	51	blue	63
<i>Enterobacter cloacae</i>	Cheese	127	blue	127	blue	118
<i>Enterobacter cloacae</i>	Cheese	124	blue	121	blue	110
<i>Enterobacter cloacae</i>	Goose	105	blue	105	blue	88
<i>Enterobacter cloacae</i>	Chicken	86	blue	85	blue	91
<i>Enterobacter sakazakii</i>	Egg	140	blue	140	blue	135
<i>Enterobacter sakazakii</i>	Pig liver	104	blue	121	blue	113
<i>Enterobacter sakazakii</i>	Raw milk	85	blue	85	blue	75
<i>Enterobacter sakazakii</i>	Red cabbage	51	blue	64	blue	59
<i>Escherichia coli</i>	Sausage	45	violet	65	violet	60
<i>Escherichia coli</i>	Cheese	71	violet	85	violet	74
<i>Escherichia coli</i>	Carrots	41	violet	48	violet	47
<i>Escherichia coli</i>	Milk	72	violet	82	violet	70
<i>Escherichia coli</i>	Mayonnaise	88	violet	87	violet	89
<i>Escherichia coli</i>	Beef	78	violet	88	violet	88
<i>Escherichia coli</i>	Sour milk	121	violet	119	violet	123
<i>Escherichia coli</i>	Celery	109	violet	128	violet	122
<i>Escherichia coli</i>	Muscles	53	violet	49	violet	56
<i>Escherichia coli</i>	Cream	98	violet	111	violet	106
<i>Escherichia coli</i>	Sausage	114	violet	108	violet	111
<i>Escherichia coli</i>	Smoked salmon	137	violet	139	violet	145
Organism ^a	Source	REC2 37°C		REC2 44°C		PCA
		cfu/plate	color	cfu/plate	color	cfu/plate
<i>Escherichia coli</i>	Lettuce	123	violet	130	violet	134
<i>Escherichia coli</i>	Chicken	94	violet	89	violet	98
<i>Escherichia coli</i>	Milk	69	violet	88	violet	87

<i>Escherichia coli</i>	Carrots	99	violet	89	violet	84
<i>Escherichia coli</i>	Lettuce	78	violet	81	violet	79
<i>Escherichia coli</i>	Fish fillet	111	violet	115	violet	105
<i>Escherichia coli</i>	Cake	60	violet	60	violet	65
<i>Escherichia coli</i>	Pig liver	120	violet	128	violet	126
<i>Escherichia coli</i>	Milk	141	violet	139	violet	143
<i>Escherichia coli</i>	Ice cream	98	violet	90	violet	96
<i>Escherichia coli</i>	Salmon	56	violet	60	violet	54
<i>Escherichia coli</i>	Whipped cream	110	violet	104	violet	107
<i>Escherichia coli</i>	Goose	66	violet	66	violet	67
<i>Escherichia coli</i>	Sausage	121	violet	115	violet	122
<i>Escherichia coli</i>	Yeast	142	violet	123	violet	132
<i>Escherichia coli</i>	Mayonnaise	129	violet	119	violet	141
<i>Escherichia coli</i>	Milk	108	violet	134	violet	128
<i>Escherichia coli</i>	Cake	100	violet	100	violet	109
<i>Escherichia coli</i>	Chicken	71	violet	79	violet	76
<i>Escherichia coli</i>	Turkey	59	violet	67	violet	56
<i>Escherichia coli</i>	Pork	89	violet	93	violet	97
<i>Escherichia coli</i>	Carrots	81	violet	89	violet	89
<i>Escherichia coli</i>	Raw milk cheese	100	violet	117	violet	104
<i>Escherichia coli</i>	Chicken liver	77	violet	70	violet	76
<i>Escherichia coli</i>	Bacon	61	violet	54	violet	57
<i>Escherichia coli</i>	Vanilla cream	91	violet	97	violet	98
<i>Escherichia coli</i>	Chicken	101	violet	118	violet	113
<i>Escherichia coli</i>	Beef	77	violet	70	violet	73
<i>Escherichia coli</i>	Chicken skin	91	violet	95	violet	93
<i>Escherichia coli</i>	Turkey	84	violet	99	violet	91
<i>Escherichia coli</i>	Ham	67	violet	65	violet	71
<i>Escherichia coli</i>	Pork	100	violet	101	violet	107
<i>Escherichia coli</i>	Bacon	129	violet	139	violet	132
<i>Escherichia coli</i>	Raw milk cheese	94	violet	95	violet	99
<i>Escherichia coli</i>	Lettuce	91	violet	98	violet	96
<i>Escherichia coli</i>	Roast beef	136	violet	135	violet	141
<i>Escherichia coli</i>	Cheese	152	violet	156	violet	153
<i>Escherichia coli</i>	Celery	30	violet	40	violet	38
<i>Escherichia coli</i>	Pig liver	46	violet	56	violet	49
<i>Escherichia coli</i>	Ice cream	91	violet	100	violet	99
<i>Escherichia coli</i>	Ham	99	violet	100	violet	100
<i>Escherichia coli</i>	Pig skin	109	violet	121	violet	116
<i>Escherichia coli</i>	Beef	111	violet	119	violet	113
<i>Escherichia coli</i>	Sausage	123	violet	121	violet	125
<i>Escherichia coli</i>	Fish fillet	85	violet	84	violet	88
		REC2 37°C		REC2 44°C		PCA
Organism^a	Source	cfu/plate	color	cfu/plate	color	cfu/plate
<i>Escherichia coli</i>	Cheese	93	violet	92	violet	94
<i>Escherichia coli</i>	Salmon	100	violet	109	violet	111
<i>Escherichia coli</i>	Bacon	109	violet	112	violet	114
<i>Escherichia coli</i> O157	Human isolate	35	blue	36	blue	36
<i>Escherichia coli</i> O157	Beef	89	blue	97	blue	103
<i>Escherichia hermanii</i>	Salmon	44	blue gray	54	blue gray	56
<i>Escherichia hermanii</i>	Roast beef	67	blue gray	100	blue gray	102
<i>Escherichia hermanii</i>	Ham	56	blue	65	blue	50

<i>Escherichia hermanii</i>	Pork	124	blue	134	blue	143
<i>Escherichia hermanii</i>	Tomato	19	blue	10	blue	22
<i>Escherichia hermanii</i>	Cake	78	blue	32	blue	89
<i>Escherichia vulneris</i>	Cabbage	14	blue	14	blue	31
<i>Escherichia vulneris</i>	Milk	86	blue	87	blue	112
<i>Klebsiella oxytoca</i>	Beef	54	blue	45	light blue	40
<i>Klebsiella oxytoca</i>	Milk	133	blue	150	light blue	134
<i>Klebsiella oxytoca</i>	Fish fillet	65	blue	32	gray	62
<i>Klebsiella oxytoca</i>	Raw milk cheese	41	blue	18	gray	36
<i>Klebsiella pneumoniae</i>	Beef	40	blue	44	blue	42
<i>Klebsiella pneumoniae</i>	Bacon	42	blue	51	blue	36
<i>Klebsiella pneumoniae</i>	Ham	58	blue	43	blue	55
<i>Klebsiella pneumoniae</i>	Cheese	37	blue	36	blue	38

^a Isolates from culture collection of Institute Pasteur de Lille (Villeneuve D'Ascq, France). All strains are food isolates.

Table 3 – Exclusivity Study: Non-coliform strains tested on REC2 agar at 37°C and 44°C (1)

Organism ^a	Source	REC2 37°C		REC2 44°C	
		cfu/plate	color	cfu/plate	color
<i>Bacillus cereus</i>	Sheep	0	no growth	0	no growth
<i>Bacillus cereus</i>	Animal tissue	0	no growth	0	no growth
<i>Erwinia spp.</i>	Cucumber	22	white gray	22	white gray
<i>Erwinia spp.</i>	Lettuce	98	white gray	102	white gray
<i>Enterococcus faecalis</i>	Milk	0	no growth	0	no growth
<i>Enterococcus faecalis</i>	Turkey	0	no growth	0	no growth
<i>Proteus mirabilis</i>	Chicken liver	72	gray	81	white-gray
<i>Proteus mirabilis</i>	Beef	132	gray	123	white-gray
<i>Proteus mirabilis</i>	Beef	93	white	91	white-gray
<i>Proteus mirabilis</i>	Beef	100	white	88	white-gray
<i>Pseudomonas aeruginosa</i>	Animal urine	26	white	24	white
<i>Pseudomonas aeruginosa</i>	Human isolate	77	white	78	white
<i>Salmonella enteritidis</i>	Chicken	103	white-gray	93	white-gray
<i>Salmonella enteritidis</i>	Egg	100	white-gray	103	white-gray
<i>Salmonella typhimurium</i>	Beef	70	white-gray	82	white-gray
<i>Salmonella typhimurium</i>	Chicken skin	79	white-gray	99	white-gray
<i>Shigella flexneri</i>	Sheep	22	white-gray	19	white-gray
<i>Shigella flexneri</i>	Plant material	44	white-gray	46	white-gray
<i>Shigella flexneri</i>	Human isolate	41	gray	0	no growth
<i>Shigella flexneri</i>	Human isolate	40	gray	0	no growth
<i>Shigella sonnei</i>	Human isolate	30	violet ^b	35	violet ^b
<i>Shigella sonnei</i>	Animal feces	27	violet ^b	32	violet ^b
<i>Staphylococcus aureus</i>	Cake	0	no growth	0	no growth
<i>Staphylococcus aureus</i>	Ice cream	0	no growth	0	no growth
<i>Staphylococcus aureus</i>	Milk	0	no growth	0	no growth
<i>Staphylococcus aureus</i>	Cheese	0	no growth	0	no growth
<i>Yersinia kristensenii</i>	Water	16	white	0	no growth
<i>Yersinia kristensenii</i>	Sheep	46	white	0	no growth
<i>Yersinia enterocolitica</i>	Egg	0	no growth	0	no growth
<i>Yersinia enterocolitica</i>	Water	0	no growth	0	no growth
<i>Yersinia enterocolitica</i>	Human isolate	20	white	0	no growth
<i>Yersinia enterocolitica</i>	Monkey tissue	43	white	0	no growth

^a Isolates from culture collection of Institute Pasteur de Lille (Villeneuve D'Ascq, France).

^b Pinpoint colonies, atypical of *E. coli*.

Table 5 – Results for Raw Ground Beef (1)

	REC2 37				REC2 44				AOAC 966.24			
	CFU/g		log10 CFU/g		CFU/g		log10 CFU/g		MPN/g		log10 MPN/g	
	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms
Un	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green				
1	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
2	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
3	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
4	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
5	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
Mean	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Sr RSDr%		N/A	N/A	Sr RSDr%		N/A	N/A	Sr RSDr%		N/A	N/A
	p value vs. AOAC 966.24		N/A	N/A	p value vs. AOAC 966.24		N/A	N/A			N/A	N/A
Low												
1	<10	10	N/A	1.00	<10	<10	N/A	N/A	3.6	9	0.56	0.95
2	<10	10	N/A	1.00	10	10	1.00	1.00	3.6	4	0.56	0.60
3	10	10	1.00	1.00	<10	10	N/A	1.00	9.1	23	0.96	1.36
4	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
5	<10	<10	N/A	N/A	10	10	1.00	1.00	9.1	9	0.96	0.95
Mean	10	10	1.00	1.00	10	10	1.00	1.00	6.4	11.3	0.76	0.97
	Sr RSDr%		N/A	0.00	Sr RSDr%		0.00	0.00	Sr RSDr%		0.23	0.40
	p value vs. AOAC 966.24		N/A	0.88	p value vs. AOAC 966.24		0.44	0.44			0.30	0.41
Mid												
1	20	30	1.30	1.48	70	70	1.85	1.85	240	240	2.38	2.38
2	90	140	1.95	2.15	80	100	1.90	2.00	75	150	1.88	2.18
3	20	20	1.30	1.30	90	140	1.95	2.15	21	93	1.32	1.97
4	60	90	1.78	1.95	40	80	1.60	1.90	15	43	1.18	1.63
5	90	110	1.95	2.04	80	120	1.90	2.08	93	240	1.97	2.38
Mean	56	78	1.66	1.78	72	102	1.84	1.99	89	153	1.74	2.11
	Sr RSDr%		0.33	0.37	Sr RSDr%		0.16	0.10	Sr RSDr%		0.49	0.32
	p value vs. AOAC 966.24		0.20	0.21	p value vs. AOAC 966.24		0.09	0.05			0.28	0.15
			0.77	0.21			0.66	0.68				
High												
1	450	740	2.65	2.87	180	440	2.26	2.64	1500	1500	3.18	3.18
2	540	730	2.73	2.86	370	550	2.57	2.74	36	430	1.56	2.63
3	50	120	1.70	2.08	360	660	2.56	2.82	28	930	1.45	2.97
4	380	640	2.58	2.81	220	370	2.34	2.57	43	930	1.63	2.97
5	500	790	2.70	2.90	350	580	2.54	2.76	150	930	2.18	2.97
Mean	384	604	2.47	2.70	296	520	2.45	2.71	351	944	2.00	2.94

Sr	0.44	0.35	Sr	0.14	0.10	Sr	0.72	0.19
RSDr%	0.18	0.13	RSDr%	0.06	0.04	RSDr%	0.36	0.06
p value vs. AOAC 966.24	0.18	0.26	p value vs. AOAC 966.24	0.28	0.10			

Table 6 – Results for Raw Boneless Pork (1)

Un	REC2 37				REC2 44				AOAC 966.24			
	CFU/g		log10 CFU/g		CFU/g		log10 CFU/g		MPN/g		log10 MPN/g	
	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms
	Violet /Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green				
1	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
2	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
3	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
4	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
5	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
Mean	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Sr		N/A	N/A	Sr		N/A	N/A	Sr		N/A	N/A
	RSDr%		N/A	N/A	RSDr%		N/A	N/A	RSDr%		N/A	N/A
	p value vs. AOAC 966.24		N/A	N/A	p value vs. AOAC 966.24		N/A	N/A				
Low												
1	30	30	1.48	1.48	40	40	1.60	1.60	36	240	1.56	2.38
2	70	560	1.85	2.75	10	10	1.00	1.00	43	93	1.63	1.97
3	90	90	1.95	1.95	90	90	1.95	1.95	15	21	1.18	1.32
4	100	330	2.00	2.52	80	80	1.90	1.90	150	460	2.18	2.66
5	10	920	1.00	2.96	70	70	1.85	1.85	23	460	1.36	2.66
Mean	60	386	1.66	2.33	58	58	1.66	1.66	53.4	254.8	1.58	2.20
	Sr		0.42	0.61	Sr		0.39	0.39	Sr		0.38	0.57
	RSDr%		0.25	0.26	RSDr%		0.23	0.23	RSDr%		0.24	0.26
	p value vs. AOAC 966.24		0.73	0.68	p value vs. AOAC 966.24		0.77	0.14				
Mid												
1	470	1500	2.67	3.18	340	340	2.53	2.53	930	11000	2.97	4.04
2	420	1300	2.62	3.11	380	380	2.58	2.58	430	4600	2.63	3.66
3	280	690	2.45	2.84	510	510	2.71	2.71	150	430	2.18	2.63
4	440	2900	2.64	3.46	430	430	2.63	2.63	430	930	2.63	2.97
5	320	1100	2.51	3.04	510	510	2.71	2.71	1500	11000	3.18	4.04
Mean	386	1498	2.58	3.13	434	434	2.63	2.63	688	5592	2.72	3.47
	Sr		0.10	0.23	Sr		0.08	0.08	Sr		0.38	0.64
	RSDr%		0.04	0.07	RSDr%		0.03	0.03	RSDr%		0.14	0.18
	p value vs. AOAC 966.24		0.43	0.31	p value vs. AOAC 966.24		0.66	0.05				
High												
1	61000	160000	4.79	5.20	10000	10000	4.00	4.00	2100	>1100	3.32	N/A

2	77000	130000	4.89	5.11	70000	70000	4.85	4.85	4600	0	3.66	N/A
3	27000	74000	4.43	4.87	<10	<10	N/A	N/A	>1100	>1100	N/A	N/A
4	71000	130000	4.85	5.11	<10	<10	N/A	N/A	00	0	3.08	N/A
5	85000	130000	4.93	5.11	9800	9800	3.99	3.99	1200	>1100	3.46	N/A
Mean	64200	124800	4.78	5.08	29933	29933	4.28	4.28	2900	0	3.38	N/A
	Sr RSDr%		0.20 0.04	N/A N/A	Sr RSDr%		0.09 0.02	N/A N/A	Sr RSDr%		0.25 0.07	N/A N/A
	p value vs. AOAC 966.24		0.001 ^a	N/A	p value vs. AOAC 966.24		0.08	N/A				

Table 7 –Results for Fermented Sausage (1)

Un	REC2 37				REC2 44				AOAC 966.24			
	CFU/g		log10 CFU/g		CFU/g		log10 CFU/g		MPN/g		log10 MPN/g	
	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms
	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green				
1	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
2	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
3	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
4	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
5	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
Mean	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Sr RSDr%		N/A N/A	N/A N/A	Sr RSDr%		N/A N/A	N/A N/A	Sr RSDr%		N/A N/A	N/A N/A
	p value vs. AOAC 966.24		N/A	N/A	p value vs. AOAC 966.24		N/A	N/A				
Low												
1	60	100	1.78	2.00	70	80	1.85	1.90	43	93	1.63	1.97
2	90	170	1.95	2.23	50	60	1.70	1.78	23	93	1.36	1.97
3	40	110	1.60	2.04	80	90	1.90	1.95	23	93	1.36	1.97
4	50	150	1.70	2.18	140	150	2.15	2.18	23	93	1.36	1.97
5	60	150	1.78	2.18	150	150	2.18	2.18	43	43	1.63	1.63
Mean	60	136	1.76	2.12	98	106	1.95	2.00	31.0	83.0	1.47	1.90
	Sr RSDr%		0.13 0.07	0.10 0.05	Sr RSDr%		0.20 0.10	0.18 0.09	Sr RSDr%		0.15 0.10	0.15 0.08
	p value vs. AOAC 966.24		0.02 ^a	0.07	p value vs. AOAC 966.24		0.01 ^a	0.50				
Mid												
1	1000	1750	3.00	3.24	1000	1120	3.00	3.05	150	4600	3.18	3.66
2	830	1430	2.92	3.16	690	760	2.84	2.88	750	750	2.88	2.88
3	900	1580	2.95	3.20	950	1010	2.98	3.00	750	750	2.88	2.88
4	920	1700	2.96	3.23	760	840	2.88	2.92	240	2400	3.38	3.38

5	1000	1840	3.00	3.26	690	770	2.84	2.89	0 150 0	1500	3.18	3.18
Mean	930	1660	2.97	3.22	818	900	2.91	2.95	138 0	2000	3.10	3.19
	Sr		0.03	0.04	Sr		0.08	0.07	Sr		0.22	0.34
	RSDr%		0.01	0.01	RSDr%		0.03	0.02	RSDr%		0.07	0.11
	p value vs. AOAC 966.24		0.22	0.87	p value vs. AOAC 966.24		0.15	0.15				

High												
1	2100	4500	3.32	3.65	880	1290	2.94	3.11	930	2300	2.97	3.36
2	1700	2800	3.23	3.45	610	890	2.79	2.95	240	4600	2.38	3.66
3	1400	2600	3.15	3.41	650	1030	2.81	3.01	380	2100	2.58	3.32
4	1400	3300	3.15	3.52	990	2090	3.00	3.32	460	750	2.66	2.88
5	1300	3100	3.11	3.49	1100	1680	3.04	3.23	240 0	4600	3.38	3.66
Mean	1580	3260	3.19	3.51	846	1396	2.92	3.12	882	2870	3	3
	Sr		0.08	0.09	Sr		0.11	0.15	Sr		0.39	0.32
	RSDr%		0.03	N/A	RSDr%		0.04	N/A	RSDr%		0.14	N/A
	p value vs. AOAC 966.24		0.10	0.46	p value vs. AOAC 966.24		0.42	0.26				

Table 8 – Results for Processed Ham (1)

Un	REC2 37				REC2 44				AOAC 966.24			
	CFU/g		log10 CFU/g		CFU/g		log10 CFU/g		MPN/g		log10 MPN/g	
	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms
1	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
2	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
3	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
4	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
5	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
Mean	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Sr		N/A	N/A	Sr		N/A	N/A	Sr		N/A	N/A
	RSDr%		N/A	N/A	RSDr%		N/A	N/A	RSDr%		N/A	N/A
	p value vs. AOAC 966.24		N/A	N/A	p value vs. AOAC 966.24		N/A	N/A				
Low												
1	10	60	1.00	1.78	40	60	1.60	1.78	23	93	1.36	1.97
2	90	170	1.95	2.23	30	30	1.48	1.48	43	43	1.63	1.63
3	50	60	1.70	1.78	20	40	1.30	1.60	23	43	1.36	1.63
4	10	60	1.00	1.78	20	50	1.30	1.70	9.2	93	0.96	1.97
5	10	30	1.00	1.48	60	70	1.78	1.85	23	43	1.36	1.63
Mean	34	76	1.33	1.81	34	50	1.49	1.68	24.2	63.0	1.34	1.77
	Sr		0.46	0.27	Sr		0.20	0.15	Sr		0.24	0.18
	RSDr%		0.35	0.15	RSDr%		0.13	0.09	RSDr%		0.18	0.10

	p value vs. AOAC 966.24		0.97	0.80	p value vs. AOAC 966.24		0.24	0.36				
Mid												
1	220	540	2.34	2.73	270	600	2.43	2.78	430	430	2.63	2.63
2	300	550	2.48	2.74	180	460	2.26	2.66	240	930	2.38	2.97
3	170	360	2.23	2.56	250	650	2.40	2.81	150	930	2.18	2.97
4	320	530	2.51	2.72	270	600	2.43	2.78	430	930	2.63	2.97
5	210	510	2.32	2.71	240	570	2.38	2.76	930	930	2.97	2.97
Mean	244	498	2.38	2.69	242	576	2.38	2.76	436	830	2.56	2.90
	Sr		0.11	0.08	Sr		0.07	0.06	Sr		0.30	0.15
	RSDr%		0.05	0.03	RSDr%		0.03	0.02	RSDr%		0.12	0.05
	p value vs. AOAC 966.24		0.25	0.07	p value vs. AOAC 966.24		0.24	0.13				

High												
1	1600	3400	3.20	3.53	900	3000	2.95	3.48	1500	46000	3.18	4.66
2	1500	3800	3.18	3.58	2500	5300	3.40	3.72	2400	9300	3.38	3.97
3	2000	4300	3.30	3.63	1800	3900	3.26	3.59	930	9300	2.97	3.97
4	1600	4100	3.20	3.61	1500	3800	3.18	3.58	750	9300	2.88	3.97
5	1700	3100	3.23	3.49	2700	4700	3.43	3.67	3800	3800	3.58	3.58
Mean	1680	3740	3.22	3.57	1880	4140	3.24	3.61	1876	15540	3.20	4.03
	Sr		0.05	0.06	Sr		0.19	0.09	Sr		0.29	0.39
	RSDr%		0.02	N/A	RSDr%		0.06	N/A	RSDr%		0.09	N/A
	p value vs. AOAC 966.24		0.85	0.06	p value vs. AOAC 966.24		0.69	0.12				

Table 11 – Results for Raw Chicken Breast (1)

	REC2 37				REC2 44				AOAC 966.24			
	CFU/g		log10 CFU/g		CFU/g		log10 CFU/g		MPN/g		log10 MPN/g	
	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms
Un	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green				
1	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
2	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
3	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
4	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
5	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
Mean	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Sr		N/A	N/A	Sr		N/A	N/A	Sr		N/A	N/A
	RSDr%		N/A	N/A	RSDr%		N/A	N/A	RSDr%		N/A	N/A
	p value vs. AOAC 966.24		N/A	N/A	p value vs. AOAC 966.24		N/A	N/A				
Low												
1	40	40	1.60	1.60	10	10	1.00	1.00	15	93	1.18	1.97
2	50	17000	1.70	4.23	30	30	1.48	1.48	43	240	1.63	2.38
3	20	20	1.30	1.30	10	10	1.00	1.00	15	93	1.18	1.97
4	10	10	1.00	1.00	20	20	1.30	1.30	23	23	1.36	1.36
5	40	13000	1.60	4.11	30	30	1.48	1.48	240	240	2.38	2.38
Mean	32	6014	1.44	2.45	20	20	1.25	1.25	67.2	137.8	1.55	2.01

	Sr	0.29	1.59	Sr	0.24	0.24	Sr	0.50	0.42			
	RSDr%	0.20	0.65	RSDr%	0.19	0.19	RSDr%	0.32	0.21			
	p value vs. AOAC 966.24	0.64	0.48	p value vs. AOAC 966.24	0.13	0.01 ^a						
Mid												
1	420	340000	2.62	5.53	150	250	2.18	2.40	240	>1100	2.38	N/A
2	400	730000	2.60	5.86	770	770	2.89	2.89	93	>1100	1.97	N/A
3	350	670000	2.54	5.83	570	580	2.76	2.76	160	>1100	2.20	N/A
4	260	260	2.41	2.41	290	310	2.46	2.49	44	>1100	1.64	N/A
5	150	150	2.18	2.18	<10	<10	N/A	N/A	35	>1100	1.54	N/A
Mean	316	348082	2.47	4.36	445	478	2.57	2.63	114	N/A	1.95	N/A
	Sr	0.18	N/A	Sr	0.32	N/A	Sr	0.36	N/A			
	RSDr%	0.07	N/A	RSDr%	0.12	N/A	RSDr%	0.18	N/A			
	p value vs. AOAC 966.24	0.006 ^a	N/A	p value vs. AOAC 966.24	0.13	N/A						

High												
1	12000	15000	4.08	4.18	27000	27000	4.43	4.43	93	46000	1.97	4.66
2	51000	55000	4.71	4.74	31000	31000	4.49	4.49	220	>110000	2.34	N/A
3	16000	19000	4.20	4.28	20000	20000	4.30	4.30	46000	110000	4.66	5.04
4	52000	83000	4.72	4.92	<10	<10	N/A	N/A	22000	1100	4.34	3.04
5	52000	64000	4.72	4.81	50000	50000	4.70	4.70	16000	>110000	4.20	N/A
Mean	36600	47200	4.48	4.58	32000	32000	4.48	4.48	16863	52367	3.50	4.25
	Sr	0.32	0.40	Sr	0.17	0.09	Sr	1.25	1.06			
	RSDr%	0.07	0.09	RSDr%	0.04	0.02	RSDr%	0.36	0.25			
	p value vs. AOAC 966.24	0.14	0.83	p value vs. AOAC 966.24	0.18	0.31						

Table 12 – Results for Frozen Turkey Breast (1)

Un	REC2 37				REC2 44				AOAC 966.24				
	CFU/g		log10 CFU/g		CFU/g		log10 CFU/g		MPN/g		log10 MPN/g		
	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	
	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink + Blue/Green				
1	<10	<10	N/A	N/A	<10	<10	N/A	N/A	N/A	<3	<3	N/A	N/A
2	<10	<10	N/A	N/A	<10	<10	N/A	N/A	N/A	<3	<3	N/A	N/A
3	<10	<10	N/A	N/A	<10	<10	N/A	N/A	N/A	<3	<3	N/A	N/A
4	<10	<10	N/A	N/A	<10	<10	N/A	N/A	N/A	<3	<3	N/A	N/A
5	<10	<10	N/A	N/A	<10	<10	N/A	N/A	N/A	<3	<3	N/A	N/A
Mean	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Sr	N/A	N/A	Sr	N/A	N/A	Sr	N/A	N/A	Sr	N/A	N/A	N/A
	RSDr%	N/A	N/A	RSDr%	N/A	N/A	RSDr%	N/A	N/A	RSDr%	N/A	N/A	N/A
	p value vs. AOAC 966.24	N/A	N/A	p value vs. AOAC 966.24	N/A	N/A							
Low													
1	50	50	1.70	1.70	120	120	2.08	2.08	240	1100	2.38	3.04	
2	90	47000	1.95	4.67	70	70	1.85	1.85	15	1100	1.18	3.04	
3	80	56000	1.90	4.75	50	50	1.70	1.70	23	>1100	1.36	N/A	
4	100	24000	2.00	4.38	60	60	1.78	1.78	21	>1100	1.32	N/A	
5	80	27000	1.90	4.43	60	60	1.78	1.78	28	>1100	1.45	N/A	
Mean	80	30810	1.89	3.99	72	72	1.84	1.84	65.4	1100	1.54	3.04	

	Sr	0.12	2.10	Sr	0.15	0.16	Sr	0.48	0.00			
	RSDr%	0.06	0.53	RSDr%	0.08	0.09	RSDr%	0.31	0.00			
	p value vs. AOAC 966.24	0.25	0.94	p value vs. AOAC 966.24	0.14	0.09						
Mid												
1	2400	3200	3.38	3.51	3000	3000	3.48	3.48	2400	9300	3.38	3.97
2	2700	3400	3.43	3.53	700	700	2.85	2.85	930	9300	2.97	3.97
3	2000	2300	3.30	3.36	1600	1600	3.20	3.20	2400	2400	3.38	3.38
4	1400	1700	3.15	3.23	1700	1700	3.23	3.23	1100	4600	3.04	3.66
5	1500	2300	3.18	3.36	1900	1900	3.28	3.28	2400	2400	3.38	3.38
Mean	2000	2580	3.29	3.40	1780	1780	3.21	3.21	1846	5600	3.23	3.67
	Sr	0.12	0.12	Sr	0.23	0.23	Sr	0.21	0.29			
	RSDr%	0.04	0.04	RSDr%	0.07	0.07	RSDr%	0.06	0.08			
	p value vs. AOAC 966.24	0.63	0.09	p value vs. AOAC 966.24	0.77	0.06						

High												
1	41000	44000	4.61	4.64	30000	30000	4.48	4.48	24000	110000	4.38	5.04
2	26000	31000	4.41	4.49	14000	17200	4.15	4.24	24000	24000	4.38	4.38
3	44000	71000	4.64	4.85	45000	45000	4.65	4.65	9300	110000	3.97	5.04
4	26000	29000	4.41	4.46	6700	10700	3.83	4.03	22000	110000	4.34	5.04
5	60000	120000	4.78	5.08	53000	53000	4.72	4.72	110000	22000	5.04	4.34
Mean	39400	59000	4.57	4.71	29740	31180	4.37	4.42	37860	75200	4.42	4.77
	Sr	0.16	0.26	Sr	0.38	0.37	Sr	0.39	0.37			
	RSDr%	0.03	0.06	RSDr%	0.09	0.08	RSDr%	0.09	0.08			
	p value vs. AOAC 966.24	0.38	0.78	p value vs. AOAC 966.24	0.80	0.72						

Table 13 – Results for Cottage Cheese (1)

Un	REC2 37				REC2 44				AOAC 966.24			
	CFU/g		log10 CFU/g		CFU/g		log10 CFU/g		MPN/g		log10 MPN/g	
	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms
	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green				
1	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
2	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
3	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
4	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
5	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
Mean	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Sr	N/A	N/A	Sr	N/A	N/A	Sr	N/A	N/A	N/A	N/A	N/A
	RSDr%	N/A	N/A	RSDr%	N/A	N/A	RSDr%	N/A	N/A	N/A	N/A	N/A
	p value vs. AOAC 966.24	N/A	N/A	p value vs. AOAC 966.24	N/A	N/A						
Low												
1	700	3300	2.85	3.52	1200	1210	3.08	3.08	120	2400	2.08	3.38
2	1800	3700	3.26	3.57	1200	1250	3.08	3.10	27	>11000	1.43	N/A
3	1400	4700	3.15	3.67	1900	1900	3.28	3.28	29	>11000	1.46	N/A
4	1300	5100	3.11	3.71	1500	1590	3.18	3.20	15	11000	1.18	4.04
5	1600	5800	3.20	3.76	1700	1730	3.23	3.24	36	4600	1.56	3.66
Mean	1360	4520	3.11	3.65	1500	1536	3.17	3.18	45.4	6000.0	1.54	3.69
	Sr	0.16	0.13	Sr	0.09	0.08	Sr	0.33	0.33			

	RSDr%		0.05	0.04	RSDr%		0.03	0.03	RSDr%		0.21	0.09
	p value vs. AOAC 966.24		0.09	0.85	p value vs. AOAC 966.24		0.0006 ^a	0.001 ^a				
Mid												
1	17000	66000	4.23	4.82	15000	15300	4.18	4.18	150	110000	2.18	5.04
2	11000	46000	4.04	4.66	18000	18700	4.26	4.27	53	110000	1.72	5.04
3	20000	104000	4.30	5.02	15000	16000	4.18	4.20	2900	46000	3.46	4.66
4	13000	57000	4.11	4.76	19000	19800	4.28	4.30	24000	>110000	4.38	N/A
5	17000	61000	4.23	4.79	19000	19200	4.28	4.28	4300	110000	3.63	5.04
Mean	15600	66800	4.18	4.81	17200	17800	4.23	4.25	6281	94000	3.08	4.95
	Sr		0.10	0.15	Sr		0.05	0.05	Sr		1.10	0.19
	RSDr%		0.02	0.03	RSDr%		0.01	0.01	RSDr%		0.36	0.04
	p value vs. AOAC 966.24		0.08	0.50	p value vs. AOAC 966.24		0.07	0.004 ^a				

High												
1	180000	840000	5.26	5.92	150000	154000	5.18	5.19	240000	460000	5.38	5.66
2	150000	610000	5.18	5.79	180000	183000	5.26	5.26	15000	>1100000	4.18	N/A
3	170000	600000	5.23	5.78	200000	205000	5.30	5.31	93000	1100000	4.97	6.04
4	120000	620000	5.08	5.79	200000	207000	5.30	5.32	240000	>1100000	5.38	N/A
5	190000	860000	5.28	5.93	180000	184000	5.26	5.26	93000	>1100000	4.97	N/A
Mean	162000	706000	5.20	5.84	182000	186600	5.26	5.27	136200	780000	4.97	5.85
	Sr		0.08	0.10	Sr		0.05	0.09	Sr		0.49	0.27
	RSDr%		0.02	0.02	RSDr%		0.01	0.02	RSDr%		0.10	0.05
	p value vs. AOAC 966.24		0.36	0.99	p value vs. AOAC 966.24		0.27	0.13				

Table 14 – Method Comparison Results for Processed Ricotta Cheese (1)

Un	REC2 37				REC2 44				AOAC 966.24			
	CFU/g		log10 CFU/g		CFU/g		log10 CFU/g		MPN/g		log10 MPN/g	
	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms
	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green				
1	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
2	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
3	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
4	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
5	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
Mean	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Sr		N/A	N/A	Sr		N/A	N/A	Sr		N/A	N/A
	RSDr%		N/A	N/A	RSDr%		N/A	N/A	RSDr%		N/A	N/A
	p value vs. AOAC 966.24		N/A	N/A	p value vs. AOAC 966.24		N/A	N/A				
Low												
1	50	75	1.70	1.88	<10	<10	N/A	N/A	43	43	1.63	1.63
2	20	30	1.30	1.48	50	50	1.70	1.70	39	39	1.59	1.59
3	70	90	1.85	1.95	<10	<10	N/A	N/A	93	93	1.97	1.97
4	50	80	1.70	1.90	<10	<10	N/A	N/A	9	39	0.95	1.59
5	40	120	1.60	2.08	<10	<10	N/A	N/A	43	43	1.63	1.63
Mean	46	79	1.63	1.86	50	50	1.70	1.70	45.4	51.4	1.56	1.68

	Sr RSDr% p value vs. AOAC 966.24		0.20 0.12 0.70	0.23 0.12 0.17	Sr RSDr% p value vs. AOAC 966.24		N/A N/A N/A	N/A N/A N/A	Sr RSDr% 0.37 0.24		0.16 0.10	
Mid												
1	380	680	2.58	2.83	300	300	2.48	2.48	240	240	2.38	2.38
2	320	520	2.51	2.72	270	270	2.43	2.43	460	460	2.66	2.66
3	270	620	2.43	2.79	370	370	2.57	2.57	460	460	2.66	2.66
4	260	800	2.41	2.90	250	250	2.40	2.40	460	460	2.66	2.66
5	360	690	2.56	2.84	350	350	2.54	2.54	1100	1100	3.04	3.04
Mean	318	662	2.50	2.82	308	308	2.48	2.48	544	544	2.68	2.68
	Sr RSDr% p value vs. AOAC 966.24		0.07 0.03 0.17	0.07 0.02 0.28	Sr RSDr% p value vs. AOAC 966.24		0.07 0.03 0.11	0.07 0.03 0.11	Sr RSDr% 0.24 0.09		0.24 0.09	
High												
1	3300	4400	3.52	3.64	1200	1200	3.08	3.08	2400	2400	3.38	3.38
2	3100	4200	3.49	3.62	10	10	1.00	1.00	2400	2400	3.38	3.38
3	2600	3900	3.41	3.59	200	200	2.30	2.30	930	1500	2.97	3.18
4	1400	2500	3.15	3.40	970	970	2.99	2.99	1500	4600	3.18	3.66
5	2900	4300	3.46	3.63	50	50	1.70	1.70	2400	2400	3.38	3.38
Mean	2660	3860	3.41	3.58	486	486	2.21	2.21	1926	2660	3.26	3.40
	Sr RSDr% p value vs. AOAC 966.24		0.15 0.04 0.13	0.10 0.03 0.19	Sr RSDr% p value vs. AOAC 966.24		0.88 0.40 0.07	0.88 0.40 0.03 ^a	Sr RSDr% 0.18 0.06		0.17 0.05	

Table 16 – Results for Raw Milk (1)

Un	REC2 37				REC2 44				AOAC 966.24			
	CFU/g		log10 CFU/g		CFU/g		log10 CFU/g		MPN/g		log10 MPN/g	
	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms
	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green				
1	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
2	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
3	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
4	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
5	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
Mean	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Sr RSDr% p value vs. AOAC 966.24		N/A N/A N/A	N/A N/A N/A	Sr RSDr% p value vs. AOAC 966.24		N/A N/A N/A	N/A N/A N/A	Sr RSDr% N/A N/A		N/A N/A	N/A N/A
Low												
1	690	85690	2.84	4.93	44	16844	1.64	4.23	93	>110000	1.97	N/A
2	320	70320	2.51	4.85	64	25064	1.81	4.40	43	>110000	1.63	N/A
3	250	65250	2.40	4.81	64	39064	1.81	4.59	150	>110000	2.18	N/A
4	410	28410	2.61	4.45	61	21061	1.79	4.32	93	46000	1.97	4.66

5	430	54430	2.63	4.74	34	30034	1.53	4.48	43	24000	1.63	4.38
Mean	420	60820	2.60	4.76	53	26413	1.71	4.40	84.4	35000.0	1.88	4.52
	Sr		0.16	0.18	Sr		0.12	0.14	Sr		0.24	0.20
	RSDr%		0.06	0.04	RSDr%		0.07	0.03	RSDr%		0.13	0.04
	p value vs. AOAC 966.24		0.01 ^a	0.84	p value vs. AOAC 966.24		0.17	0.68				
Mid												
1	4200	674200	3.62	5.83	2500	93500	3.40	4.97	1600	>1100000	3.20	N/A
2	4000	694000	3.60	5.84	4400	304400	3.64	5.48	15000	460000	4.18	5.66
3	5000	505000	3.70	5.70	6700	336700	3.83	5.53	4300	1100000	3.63	6.04
4	6400	836400	3.81	5.92	7100	477100	3.85	5.68	7500	460000	3.88	5.66
5	8000	748000	3.90	5.87	7800	567800	3.89	5.75	9300	1100000	3.97	6.04
Mean	5520	691520	3.73	5.83	5700	355900	3.72	5.48	7540	780000	3.77	5.85
	Sr		0.13	0.08	Sr		0.20	0.31	Sr		0.37	0.22
	RSDr%		0.03	0.01	RSDr%		0.05	0.06	RSDr%		0.10	0.04
	p value vs. AOAC 966.24		0.79	0.91	p value vs. AOAC 966.24		0.73	0.12				

High												
1	3800000	8300000	6.58	6.92	5800000	6400000	6.76	6.81	4300000	4300000	6.63	6.63
2	2900000	7400000	6.46	6.87	6100000	7500000	6.79	6.88	9300000	9300000	6.97	6.97
3	2700000	7200000	6.43	6.86	3100000	7000000	6.49	6.85	24000000	24000000	7.38	7.38
4	2900000	6900000	6.46	6.84	4600000	7700000	6.66	6.89	9300000	24000000	6.97	7.38
5	3800000	9300000	6.58	6.97	3000000	3000000	6.48	6.48	2400000	4300000	6.38	6.63
Mean	3220000	7820000	6.50	6.89	4520000	6320000	6.64	6.78	9860000	13180000	6.87	7.00
	Sr		0.07	0.05	Sr		0.15	0.17	Sr		0.38	0.37
	RSDr%		0.01	0.01	RSDr%		0.02	0.03	RSDr%		0.06	0.05
	p value vs. AOAC 966.24		0.14	0.60	p value vs. AOAC 966.24		0.30	0.17				

Table 20 – Results for Raw Ground Chicken (1)

Un	REC2 37				REC2 44				AOAC 966.24			
	CFU/g		log10 CFU/g		CFU/g		log10 CFU/g		MPN/g		log10 MPN/g	
	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms
	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green				
1	10	350	1.00	2.54	<10	<10	N/A	N/A	23	43	1.36	1.63
2	10	510	1.00	2.71	<10	<10	N/A	N/A	23	23	1.36	1.36
3	10	470	1.00	2.67	10	10	1.00	1.00	23	240	1.36	2.38
4	10	450	1.00	2.65	<10	<10	N/A	N/A	9.2	15	0.96	1.18
5	20	770	1.30	2.89	10	10	1.00	1.00	3.6	23	0.56	1.36
Mean	12	510	1.06	2.69	10	10	1.00	1.00	16.4	68.8	1.12	1.58
	Sr		0.13	0.12	Sr		0.00	0.00	Sr		0.36	0.46
	RSDr%		0.12	0.04	RSDr%		0.00	0.00	RSDr%		0.32	0.29
	p value vs. AOAC 966.24		0.08	0.01 ^a	p value vs. AOAC 966.24		N/A	N/A				
Low												
1	10	580	1.00	2.76	30	30	1.48	1.48	93	93	1.97	1.97
2	50	760	1.70	2.88	60	100	1.78	2.00	15	210	1.18	2.32
3	40	590	1.60	2.77	110	110	2.04	2.04	9.2	23	0.96	1.36

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4	50	820	1.70	2.91	60	60	1.78	1.78	43	93	1.63	1.97
5	30	450	1.48	2.65	<10	<10	N/A	N/A	150	150	2.18	2.18
Mean	36	640	1.50	2.80	65	75	1.77	1.82	62.0	113.8	1.58	1.96
	Sr		0.29	0.10	Sr		0.23	0.26	Sr		0.51	0.37
	RSDr%		0.19	0.04	RSDr%		0.13	0.14	RSDr%		0.32	0.19
	p value vs. AOAC 966.24		0.80	0.01 ^a	p value vs. AOAC 966.24		0.39	0.78				

Mid												
1	310	1150	2.49	3.06	210	890	2.32	2.95	430	430	2.63	2.63
2	210	1010	2.32	3.00	210	750	2.32	2.88	240	240	2.38	2.38
3	140	900	2.15	2.95	180	680	2.26	2.83	430	430	2.63	2.63
4	140	940	2.15	2.97	310	1090	2.49	3.04	240	240	2.38	2.38
5	260	1030	2.41	3.01	220	850	2.34	2.93	430	430	2.63	2.63
Mean	212	1006	2.30	3.00	226	852	2.35	2.92	354	354	2.53	2.53
	Sr		0.16	0.04	Sr		0.09	0.08	Sr		0.14	0.14
	RSDr%		0.07	0.01	RSDr%		0.04	0.03	RSDr%		0.06	0.06
	p value vs. AOAC 966.24		0.03 ^a	0.00 ^a	p value vs. AOAC 966.24		0.11	0.01 ^a				

High												
1	1100	5300	3.04	3.72	1600	5400	3.20	3.73	4300	4300	3.63	3.63
2	4000	12700	3.60	4.10	1800	10300	3.26	4.01	4300	4300	3.63	3.63
3	1900	8000	3.28	3.90	2500	7500	3.40	3.88	2400	2400	3.38	3.38
4	2500	8300	3.40	3.92	2800	9900	3.45	4.00	4300	4300	3.63	3.63
5	1800	6000	3.26	3.78	1800	5600	3.26	3.75	9300	9300	3.97	3.97
Mean	2260	8060	3.32	3.89	2100	7740	3.31	3.87	4920	4920	3.65	3.65
	Sr		0.21	0.15	Sr		0.10	0.13	Sr		0.21	0.21
	RSDr%		0.06	0.04	RSDr%		0.03	0.03	RSDr%		0.06	0.06
	p value vs. AOAC 966.24		0.07	0.15	p value vs. AOAC 966.24		0.05	0.02 ^a				

Table 21 – Results for Dry Infant Formula (1)

	REC2 37				REC2 44				AOAC 966.24			
	CFU/g		log10 CFU/g		CFU/g		log10 CFU/g		MPN/g		log10 MPN/g	
	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms	E. coli	Total coliforms
Un	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green	Violet/Pink colonies	Violet/Pink + Blue/Green				
1	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
2	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
3	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
4	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
5	<10	<10	N/A	N/A	<10	<10	N/A	N/A	<3	<3	N/A	N/A
Mean	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Sr RSDr%		N/A	N/A	Sr RSDr%		N/A	N/A	Sr RSDr%		N/A	N/A
	p value vs. AOAC 966.24		N/A	N/A	p value vs. AOAC 966.24		N/A	N/A			N/A	N/A
Low												
1	320	500	2.51	2.70	320	320	2.51	2.51	16	240	1.20	2.38
2	290	570	2.46	2.76	270	270	2.43	2.43	11	460	1.04	2.66
3	380	660	2.58	2.82	290	290	2.46	2.46	6.2	460	0.79	2.66
4	390	770	2.59	2.89	340	340	2.53	2.53	16	240	1.20	2.38
5	290	560	2.46	2.75	290	290	2.46	2.46	16	240	1.20	2.38
Mean	334	612	2.52	2.78	302	302	2.48	2.48	13.0	328.0	1.09	2.49
	Sr RSDr%		0.06	0.07	Sr RSDr%		0.04	0.04	Sr RSDr%		0.18	0.15
	p value vs. AOAC 966.24		0.02	0.03	p value vs. AOAC 966.24		0.02	0.02			0.17	0.06
	p value vs. AOAC 966.24		0.00 ^a	0.02 ^a	p value vs. AOAC 966.24		0.00 ^a	0.87				
Mid												
1	1200	3400	3.08	3.53	1000	1000	3.00	3.00	430	430	2.63	2.63
2	1100	3300	3.04	3.52	1400	1400	3.15	3.15	460	930	2.66	2.97
3	1100	3100	3.04	3.49	980	980	2.99	2.99	750	1500	2.88	3.18
4	1000	3700	3.00	3.57	1100	1100	3.04	3.04	930	4300	2.97	3.63
5	1300	3800	3.11	3.58	930	930	2.97	2.97	460	4300	2.66	3.63
Mean	1140	3460	3.06	3.54	1082	1082	3.03	3.03	606	2292	2.76	3.21
	Sr RSDr%		0.04	0.04	Sr RSDr%		0.07	0.07	Sr RSDr%		0.15	0.43
	p value vs. AOAC 966.24		0.01	0.01	p value vs. AOAC 966.24		0.02	0.02			0.05	0.13
	p value vs. AOAC 966.24		0.02 ^a	0.15	p value vs. AOAC 966.24		0.03 ^a	0.43				
High												
1	14000	20000	4.15	4.30	10000	10000	4.00	4.00	1500	23000	3.18	4.36
2	12000	18800	4.08	4.27	13000	13000	4.11	4.11	4600	23000	3.66	4.36
3	10000	16200	4.00	4.21	11000	11000	4.04	4.04	9300	9300	3.97	3.97
4	14000	21600	4.15	4.33	12000	12000	4.08	4.08	4600	4300	3.66	3.63
5	16000	22700	4.20	4.36	13000	13000	4.11	4.11	24000	38000	4.38	4.58
Mean	13200	19860	4.12	4.30	11800	11800	4.07	4.07	8800	19520	3.77	4.18
	Sr RSDr%		0.08	0.06	Sr RSDr%		0.05	0.05	Sr RSDr%		0.44	0.38
	p value vs. AOAC 966.24		0.02	0.01	p value vs. AOAC 966.24		0.01	0.01			0.12	0.09
	p value vs. AOAC 966.24		0.16	0.53	p value vs. AOAC 966.24		0.018 ^a	0.54				

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2. AOAC International. AOAC Official Method 966.24 – Coliform Group and *Escherichia coli* in Tree Nut Meats from Section 17.2.02 – Microbiological Methods / Chilled, Frozen, Precooked, or Prepared Foods, and Nutmeats.