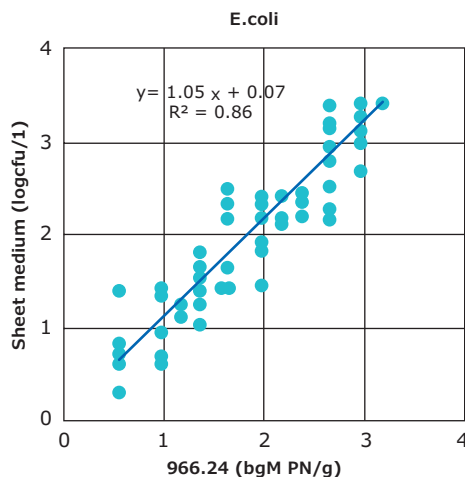


Relationship of MC-Media Pad E. coli & Coliform Plate Results with the Most Probable Number Method (MPN)

MC-Media Pad E. coli & Coliform method has validated through the AOAC Research Institute *Performance Tested Method* Validation Program. Although MC-Media Pad E. coli & Coliform is an acceptable alternative to the MPN, facilities for research and screening occasionally have the need to determine MC-Media Pad E. coli & Coliform counts from MPN results. These facilities have the MPN results for a food sample and are interested in determining the MC-Media Pad E. coli & Coliform counts. Based on the study below, Table was developed to show the relationship between MPN results and MC-Media Pad E. coli & Coliform counts.

Escherichia coli counts in raw beef, frozen beef, raw pork, frozen pork, ham and raw ground beef were shown by AOAC Research Institute Performance Tested Method Validation Program using MC-Media Pad E. coli & Coliform and the MPN method. The relationship between the two methods is indicated by the following equation:

$$(\log \text{ MC-Media Pad E. coli \& Coliform result}) = 0.07 + 1.05 \times (\log \text{ MPN result})$$



Correlation between MC-Media Pad E. coli & Coliform and AOAC Official Method 966.24 for enumerating *E. coli* in meat samples.

* Ushiyama and Iwasaki: Journal of AOAC International, Vol. 93, No. 1, 163-183, 2010.

Conversion Table of MC-Media Pad E. coli & Coliform Results to MPN Table

MC-Media Pad E. coli & Coliform		MPN Method (AOAC Official Method 966.24)	
CFU/g	LogCFU/g	Log10 MPN/g ($x = (y - 0.07) / 1.0$)	MPN/g
1	0.000	0.000	1.000
2	0.301	0.287	1.935
3	0.477	0.454	2.847
4	0.602	0.573	3.744
5	0.699	0.666	4.631
6	0.778	0.741	5.509
7	0.845	0.805	6.381
8	0.903	0.860	7.246
9	0.954	0.909	8.106
10	1.000	0.952	8.962
11	1.041	0.992	9.813
12	1.079	1.028	10.661
13	1.114	1.061	11.505
14	1.146	1.092	12.347
15	1.176	1.120	13.185
16	1.204	1.147	14.021
17	1.230	1.172	14.854
18	1.255	1.195	15.685
19	1.279	1.218	16.514
20	1.301	1.239	17.341
21	1.322	1.259	18.166
22	1.342	1.278	18.989
23	1.362	1.297	19.810
24	1.380	1.314	20.629
25	1.398	1.331	21.447
26	1.415	1.348	22.264
27	1.431	1.363	23.078
28	1.447	1.378	23.892
29	1.462	1.393	24.704
30	1.477	1.407	25.514

MC-Media Pad E. coli & Coliform		MPN Method (AOAC Official Method 966.24)	
CFU/g	LogCFU/g	Log10 MPN/g (x= (y-0.07)/1.0)	MPN/g
31	1.491	1.420	26.324
32	1.505	1.433	27.132
33	1.519	1.446	27.939
34	1.531	1.459	28.744
35	1.544	1.471	29.549
36	1.556	1.482	30.352
37	1.568	1.494	31.155
38	1.580	1.505	31.956
39	1.591	1.515	32.757
40	1.602	1.526	33.556
41	1.613	1.536	34.355
42	1.623	1.546	35.152
43	1.633	1.556	35.949
44	1.643	1.565	36.745
45	1.653	1.574	37.539
46	1.663	1.584	38.334
47	1.672	1.592	39.127
48	1.681	1.601	39.919
49	1.690	1.610	40.711
50	1.699	1.618	41.502
51	1.708	1.626	42.292
52	1.716	1.634	43.081
53	1.724	1.642	43.870
54	1.732	1.650	44.658
55	1.740	1.657	45.445
56	1.748	1.665	46.232
57	1.756	1.672	47.018
58	1.763	1.679	47.803
59	1.771	1.687	48.588
60	1.778	1.693	49.372
61	1.785	1.700	50.155
62	1.792	1.707	50.938
63	1.799	1.714	51.720
64	1.806	1.720	52.501
65	1.813	1.727	53.282

MC-Media Pad E. coli & Coliform		MPN Method (AOAC Official Method 966.24)	
CFU/g	LogCFU/g	Log10 MPN/g (x= (y-0.07)/1.0)	MPN/g
66	1.820	1.733	54.063
67	1.826	1.739	54.843
68	1.833	1.745	55.622
69	1.839	1.751	56.401
70	1.845	1.757	57.179
71	1.851	1.763	57.957
72	1.857	1.769	58.734
73	1.863	1.775	59.510
74	1.869	1.780	60.287
75	1.875	1.786	61.062
76	1.881	1.791	61.837
77	1.886	1.797	62.612
78	1.892	1.802	63.386
79	1.898	1.807	64.160
80	1.903	1.812	64.933
81	1.908	1.818	65.706
82	1.914	1.823	66.478
83	1.919	1.828	67.250
84	1.924	1.833	68.022
85	1.929	1.838	68.793
86	1.934	1.842	69.563
87	1.940	1.847	70.333
88	1.944	1.852	71.103
89	1.949	1.857	71.872
90	1.954	1.861	72.641
91	1.959	1.866	73.410
92	1.964	1.870	74.178
93	1.968	1.875	74.946
94	1.973	1.879	75.713
95	1.978	1.884	76.480
96	1.982	1.888	77.246
97	1.987	1.892	78.012
98	1.991	1.896	78.778
99	1.996	1.901	79.544
100	2.000	1.905	80.309

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