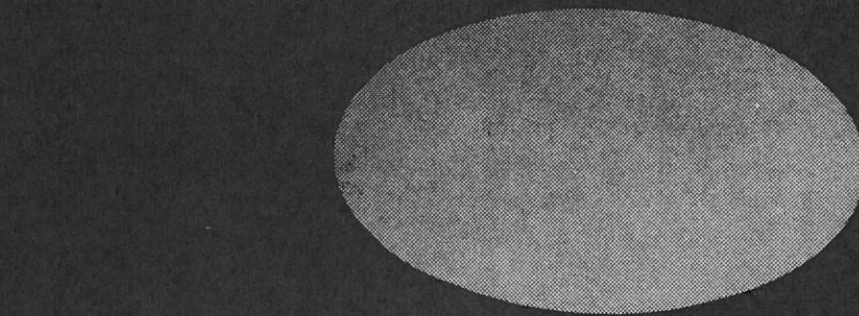


PROCEEDINGS

8th National Shellfish Sanitation Workshop



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A SIMPLER MULTIPLE FERMENTATION TUBE TEST FOR MONITORING THE BACTERIOLOGICAL QUALITY OF SHELLFISH HARVEST WATERS; THE EXAMINATION OF TWELVE 1.0 ml SAMPLE PORTIONS

by

*James H. Redman, Laboratory Director
New York State Department of
Environmental Conservation
Stony Brook, Long Island, New York*

We offer for the task force's consideration a simpler multiple tube test for the routine monitoring of shellfish harvest waters. Presumptive media is prepared as single strength, and 1.0 ml sample portions are pipetted into each of 12 fermentation tubes. We feel that definite savings in labor and materials may be realized.

The "12 tube test" is suggested for re-appraisal type sampling but not for comprehensive sanitary surveys of harvest areas.

Table of most probable numbers/100 ml examining 12-10° ml sample portions

No. Positive Tubes	MPN
0	<8.7
1	8.7
2	18
3	29
4	41
5	54
6	70
7	88
8	110
9	139
10	179
11	248
12	248+

Multiple tube comparison: 5 tubes each 10, 10°, 10⁻¹ ml and 12 tubes each 10° ml

Water Sample Number	Median Fecal Coliform MPN/100 ml for 5 Determinations	
	5 Tubes	12 Tubes
	23	18
1	220	179
2	17	8.7
3	2	8.7
4	33	88
5	2	8.7
6	49	18
7	170	179
8	110	88
9	33	29
10	79	139
11	130	179
12	240	248
13	170	139
14	110	88
15	49	70
16	79	54
17	63	88
18	49	54
19	130	179
20	33	54
21	46	18
22	240	248
23	350	248
24	540	248
25	240	248
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TRIAL I—Control: Lauryl Tryptose broth enrichment 24–48 hours at 35°C. EC medium confirmation 24 hours at 44.5°C.

Experimental: AI medium 24 hours at 44.5°C.

Water Sample Number	Median Fecal Coliform MPN/100 ml for 5 Determinations	
	Control	Experimental
1	88	70
2	8.7	8.7
3	18	<8.7
4	8.7	<8.7
5	8.7	<8.7
6	139	110
7	29	18
8	139	41
9	18	<8.7
10	248	179
11	41	18
12	18	<8.7

TRIAL II—Control: Lauryl Tryptose broth enrichment 24–48 hours at 35°C. EC medium confirmation 24 hours at 44.5°C.

Experimental: AI medium 4 hours at 30°C. and 20 hours at 44.5°C.

Water Sample Number	Median Fecal Coliform MPN/100 ml for 5 Determinations	
	Control	Experimental
1	18	18
2	54	54
3	8.7	18
4	8.7	8.7
5	41	41
6	41	41
7	29	8.7
8	88	179
9	8.7	18
10	8.7	8.7
11	18	18
12	29	29

TRIAL III—Control: Lauryl Tryptose broth enrichment 24–48 hours at 35°C. EC medium confirmation 24 hours at 44.5°C.

Experimental: AI medium 24 hours at 20°C. and 24 hours at 44.5°C.

Water Sample Number	Median Fecal Coliform MPN/100 ml for 5 Determinations	
	Control	Experimental
1	8.7	18
2	18	18
3	<8.7	8.7
4	8.7	8.7
5	<8.7	8.7
6	18	18
7	18	18
8	41	41
9	88	88
10	139	139
11	139	139
12	139	139