

Temperature Specific *Vibrio parahaemolyticus* Growth Rates and Doubling Times for Calculating Cumulative Growth Based on Hourly Temperature Observations

Oyster Temperature (degree F)	Growth Rate (logs/hr)	Doubling Time (hrs)	Oyster Temperature (degree F)	Growth Rate (logs/hr)	Doubling Time (hrs)
50	0.008	35.8			
51	0.011	28.4	76	0.147	2.05
52	0.013	23.1	77	0.156	1.93
53	0.016	19.2	78	0.165	1.83
54	0.019	16.1	79	0.174	1.73
55	0.022	13.8	80	0.183	1.64
56	0.025	11.9	81	0.193	1.56
57	0.029	10.4	82	0.203	1.48
58	0.033	9.14	83	0.213	1.41
59	0.037	8.11	84	0.224	1.34
60	0.042	7.24	85	0.235	1.28
61	0.046	6.50	86	0.246	1.23
62	0.051	5.87	87	0.257	1.17
63	0.056	5.33	88	0.268	1.12
64	0.062	4.86	89	0.280	1.07
65	0.068	4.45	90	0.292	1.03
66	0.074	4.09	91	0.304	0.99
67	0.080	3.77	92	0.317	0.95
68	0.086	3.49	93	0.330	0.91
69	0.093	3.24	94	0.343	0.88
70	0.100	3.01	95	0.356	0.85
71	0.107	2.81	96	0.370	0.81
72	0.115	2.63	97	0.383	0.79
73	0.122	2.46	98	0.397	0.76
74	0.130	2.31	99	0.412	0.73
75	0.139	2.17	100	0.426	0.71

Note: Growth rate (in logs/hr) = $(0.01122 * \text{Temp} - 0.4689)^2$

Source: National Shellfish Sanitation Program (NSSP) Guide for the Control of Molluscan Shellfish: 2013 Revision Section IV. Guidance Documents - Chapter IV. Naturally Occurring Pathogens, .01 *Vibrio parahaemolyticus* (*V.p.*) Control Plan Guidance. From the US Food and Drug Administration website <http://www.fda.gov/Food/GuidanceRegulation/FederalStateFoodPrograms/ucm2006754.htm>